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ABSTRACT

Five 45-minute teaching units for junior high school students on alcohol education and traffic safety are presented. Lesson I examines alcohol as a drug. Activities include a question-answer survey, a film, and a game. Assignments are a "find the word" game and an evaluation of an advertisement for an alcoholic beverage. Lesson II considers alcohol and behavior. Students identify comparative amounts of alcohol in commonly used beverages. Activities include a mini-lecture, interviewing people who do or do not drink, and completing a crossword puzzle. Lesson III explores the nature of beverage alcohol by examining the relationship between the oxidation rate and time. Students list risks and rewards connected with a decision to drink. Assignments are answering questions and listing places where a person could get help for problem drinking. Lesson IV considers drinking and driving behavior. Activities include role playing and group discussions of interviews. Students write a paragraph describing a drinking and/or driving situation in which they could become involved. Lesson V discusses dealing with drinking and driving situations. Activities are the same as for Lesson IV. Objectives, an overview of the content, materials needed, homework assignments, and instructional aids are provided for each unit. Appendices include a rationale for combining alcohol education and traffic safety, explanations of participatory teaching techniques, professional references, and test battery forms with instructions for administering, scoring, and analyzing results. (KC)

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Development of a Junior High School Module in Alcohol Education and Traffic Safety

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BACKGROUND AND ACKNOWLEDGMENTS

While developing and field-testing an alcohol and traffic safety mini-course[1] for use in high school driver education programs, a team of specialists sensed that drinking patterns that could lead to drunken driving are forming as early as the 7th or 8th grade with such imprint that little can be done about them later on. Although still open for adult guidance, 7th and 8th graders are seeking their own behavioral standards. They are experimenting with alcohol as they anticipate the driver's license. This is a good time to influence them to reach decisions leading to responsible, socially acceptable drinking and driving behavior.

Consequently the authors have developed, field-tested and evaluated the Junior High School Module in Alcohol Education and Traffic Safety for use with 7th and 8th graders in whatever course or experience handles alcohol education. The Module is relevant for the drinking and driving situations likely for 7th and 8th graders, and emphasizes participatory teaching techniques of demonstrated effectiveness with this age group. (A 28-minute documentary film, "AL-CO-HOL -- A Mini-Course for Junior High Schools", prepared for school administrators and teachers shows the Module in action with some of these techniques being utilized with a junior high school class. The film is available from the AAA Foundation for Traffic Safety.)

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[1] James L. Malfetti, Esther A. McGrath, and Angelo G. DeMeo, Instructor's Manual, DWI Mini-Course for High School Driver Education Programs (New York: Safety Research and Education Project, Teachers College, Columbia University, 1975), 242p.

The Module was prepared in two stages: developmental, yielding a preliminary version; and field-testing, resulting in the present version.

Developmental

In preparing the preliminary module the authors used their professional experiences and appropriate current literature as the basis for writing objectives and content, and for selecting teaching techniques. For clarification, expansion or deletion these items were then systematically submitted to 25 recognized theoreticians in the field of curriculum development and alcohol education. Further, 130 junior high school teachers rated the objectives, content or techniques for importance and practicality.

After an analysis of these additional inputs, the preliminary version of the Module was implemented at two junior high schools in two states by four teachers with 270 students. Responses and comments from teachers and students were recorded each day as were the observations of one of the investigators. Further, a *pre/post* test battery to measure change in knowledge, attitudes and behavior in relation to alcohol and traffic safety was administered to the students. In addition, teachers completed a comprehensive evaluation form eliciting comments on all aspects of the preliminary Module. Results were used to form the field-testing version of the Module, and are reported more fully elsewhere.[1]

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[1]Monica M. Homer, "Teaching Techniques for a Module in Alcohol Education and Traffic Safety for Junior High School" (unpublished Doctoral Dissertation, Teachers College, Columbia University, 1977), 187p.

The authors are indebted to Messrs. Frank Avitable and George Fox at the W. A. Skewes School in Ridgefield, New Jersey, and to Ms. Linda Backer and Mr. Francis McGrath at a junior high school in Nassau County, New York for trying the preliminary Module in their classes, and for their helpful critiques and evaluations, as well as those of their students.

The authors are also grateful to Dr. Shirley Mascoll and Mrs. Patricia Williams, research assistants, who participated in the development of the preliminary Module. Beyond that, Dr. Mascoll was instrumental in the creation of the *pre/post* test battery, and Mrs. Williams in the writing and refinement of objectives and related content.

Field-Testing

Forty-five junior high school teachers were trained in the use of the Module at eleven cities in seven states. The field-testing version of the Module was then conducted by these teachers for 4,671 students at 45 public and private junior high schools representing urban, suburban and rural areas (so that the results would obtain nationally). In these same settings an additional 1,465 students were used for a controlled study of effectiveness.

Teachers were asked to critique the Module page-by-page, and in terms of its concepts and major components. They also administered *pre/post* test batteries to assess student change in the objectives of the Module. Further, there was a second *post* testing to see if change held up over time. Additionally students were asked to rate the content, techniques and value of the Module. The results of these evaluations (fully reported in Appendix D) helped to form the final version of the Module. It was reassuring that the teachers and students found the Module practical and valuable. It was also gratifying to learn that the *pre/post* testing of students showed significant positive change in terms of knowledge and

attitude in relation to alcohol and traffic safety. However, the behavioral intentions of students did not show adequate positive change, and this was one of the reasons the final version of the Module was expanded from three to five class periods -- to give students time and more experience in dealing with drinking and driving decisions they will face.

The authors are grateful to the following persons and organizations for their cooperation in field-testing and for the hundreds of ideas, modifications and suggestions growing out of it.

1. California: (Sacramento)
   David Dun, Albert Einstein Junior High School (JHS)
   Harold R. Freeze, Sutter Middle School
   Brian C. Jacobs, Will C. Wood JHS
   Charles Matus, Sacramento City Unified School District
   Jon Stout, California State Automobile Association

   (Glendale)
   Patricia A. Casillas, Roosevelt JHS
   Roger Donahoo, Wilson JHS
   Rick Haire, Rosement JHS
   Don Knapp, Clark JHS
   Karl M. LaCom, Toll JHS
   Donald W. Enpey, Jim McGlashan
   Jack Parker and Virginia Booth of the
   Glendale Unified School District
   Robert J. Cheney and Maurie Hurst
   of the Automobile Club of Southern California

2. Florida: (Tampa)
   Robert H. Jakob, Jr., Webb JHS
   Roswell E. Kenna, Jr., Madison JHS
   Chuck Traina, St. Patrick School
   Earl M. Whitworth, Jr., Dowdell JHS
   Dr. Mary Bullerman, Hillsborough County Schools
   John D. Rodolf, Peninsula Motor Club

3. Missouri: (Maryland Heights)
   Cal Riley, East Ladue JHS
   Dan Scheller, Kirby JHS
   Marilyn Vessel, Ferguson JHS
   Sandra Welp and James Wosman of Hancock JHS
   Michael Right, Automobile Club of Missouri

4. New York: (New York)
   Linda Backer, Garden City JHS
   George Blessing, Our Lady of Mercy School
   Lois Kornstein, I S 145 (Joseph Pulitzer)
   Donald F. Paglieri, Isaac E. Young JHS
   Paul Petrillo, George Bertisch and
   Frank Hynes of the Automobile Club of New York

4. New York (cont'd): (Buffalo)
Paul Di Rosa, Herbert Hoover JHS
William Evans, Cathedral School
Mark Karlin, Southside JHS
Joseph G. Krug and Raymond H. Schmitt of Maryvale JHS
Earl Basehart, Rollin Miller and Louis Pfohl of the Automobile Club of Western New York

(Syracuse)
Agatha B. DeVore, Levy JHS
Betsy Flack, H. W. Smith JHS
Benjamin Lamanna, Lincoln JHS
Susan M. Wolf, Grant JHS
James A. Runyon, Syracuse School District
Charles P. Tighe, Automobile Club of Syracuse

5. Oklahoma: (Tulsa)
Al Clark, Clinton JHS
Judy Ann Shannon, Foster JHS
Phyllis N. Lasarsky, Anderson JHS
John Rowles and Richard Kisner of the Tulsa Public Schools
Albert F. Filipps and Edwin L. Ramey of the Automobile Club of Oklahoma

6. Pennsylvania: (Philadelphia)
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Joan W. Keyser, Agnes Irwin School
James Hess, Association for Jewish Children
Alfred K. Gallagher, Delaware County Area Vocational-Technical Education
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Frank Liberto, St. John the Baptist School
Karen Myers, Seneca JHS
Roberta K. Yinger, Penn JHS
Richard V. Tearle, Pennsylvania AAA Federation
John D. Haver and Greg Teslevich of the West Penn Motor Club

7. Virginia: (Norfolk)
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Alyce A. Bess, Ruffner JHS
Willie L. Braye, Virginia Beach JHS
Janet Gwin, Norfolk Academy
Arthur E. Lemasters, Churchland JHS
A. B. Methany, Old Dominion University
Sylvia Ross, AAA Headquarters
E. W. Timmons, Tidewater Automobile Association

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Other Acknowledgments

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Channing L. Bete Co., Inc., publishers of the pamphlet "ABC's of Drinking and Driving", and Film Fair Communications, distributors of the film, "Alcohol: How Much is Too Much?" for special considerations in making these materials available.

Using the Module

Although the Module may seem definitive, it is intended as a guide to administrators and teachers for presenting the essentials of what should be known and done by 7th and 8th graders about alcohol and traffic safety. The Module is designed for adaptation to the teaching methods and learning environments that administrators and teachers find appropriate for their circumstances.

J.L.M.
K.J.S.
M.M.H.

DEVELOPMENT OF A JUNIOR HIGH SCHOOL MODULE in ALCOHOL EDUCATION AND TRAFFIC SAFETY

INTRODUCTION

Ours is a drinking society. We drink alcoholic beverages many times, at many places, for many reasons. Findings of a 1974 national survey of junior and senior high school students indicate that teenage drinking increases with grade until 93 percent of twelfth-grade boys and 87 percent of twelfth-grade girls have had experience with alcoholic beverages.[1] We assume therefore that most teenagers will drink at least occasionally.

Ours also is a driving society. There are 129,000,000 licensed drivers in the United States, 13,200,000 of whom are under twenty.[2] Teenage social structure places great emphasis on the car and driving, with the driver's license frequently viewed as a "rite of passage" into the adult world. Through the automobile the teenager can experience power

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[1] U.S. Department of Health, Education, and Welfare, Public Health Service, Alcohol and Health, Second Special Report to the U.S. Congress from the Secretary of Health, Education, and Welfare (Washington, D.C.: The Department, June 1974, preprint ed.), p. 8.

[2] National Safety Council, Accident Facts, 1976 ed. (Chicago: The Council, 1976), p. 54.

and autonomy seldom afforded in other areas of his life.[1] Thus we also assume that most eligible teenagers will drive, and that at times they will be faced with situations involving drinking and driving.

In fact, drunken driving is an increasingly serious problem for teenagers. Between 1960 and 1973, arrests for driving while intoxicated increased by more than 400% for persons under 18.[2] Further, teenagers are disproportionately involved in alcohol-related traffic fatalities. In one state 43 percent of the drinking drivers killed were 16 to 24 years old, but only 24 percent of the state's drivers were in that age group.[3] James B. Gregory, while Administrator of the National Highway Traffic Safety Administration, stated:

> There is an alarming amount of drinking and driving taking place among a mainstream of American youth. In fact, high school students are involved in unsupervised social drinking situations almost as often as adults are today--half of them drink regularly, many get drunk and drive when drunk. Tragically, drunk driving is the number one killer of young people.[4]

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[1]David Klein, "Adolescent Driving as Deviant Behavior," in The Young Driver: Reckless or Unprepared? ed. Patricia F. Waller, North Carolina Symposium on Highway Safety (Chapel Hill: University of North Carolina Highway Safety Research Center, 1971), pp.2-19.

[2]United States Federal Bureau of Investigation. Uniform Crime Reports for the United States, 1973 (Washington, D.C., Government Printing Office, 1974) p.2.

[3]"Youth Ranks High Among Drinking Drivers," Traffic Safety, (June 1970), 8.

[4]Cross Roads New York-State Traffic Safety Council, 15, 6 (November-December 1975), 1.

Not only are most teenagers drinking, but alcohol consumption is more than incidental for a sizable fraction of them. A recent survey[1] of teenagers shows that: (1) 19 percent drink once a week, 26 percent drink twice a week or more; (2) 61 percent have been *drunk* once or more during the past month; (3) on the days they drink, 39 percent have one to three drinks, 29 percent four to eight, and 14 percent nine or more. Further, a survey of the alcohol habits of 9,500 urban junior and senior high school students identified 12% of the respondents as "high risk" on the basis of such criteria as: drinking five or more drinks at one sitting, more than once a week; experiencing blackouts or passing out; drinking because they wanted to get drunk; drinking before or while in school.[2]

And drinking habits are being formed earlier than suspected. A national survey in 1975 indicated that more than half of the nation's seventh graders had tried drinking at least once during the previous year. Beer drinking once a week was reported by 10 percent of seventh grade boys.[3] The survey also revealed that the year between ages 13 and 14 appears to mark a point at which many youngsters decide to drink.[4]

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[1] A Strategic Study for Communications Programs on Alcohol and Highway Safety: High School Study (n.p.: Grey Marketing & Research Dept. for the Office of Pedestrian and Driver Programs, National Highway Safety Administration, U.S. Dept. of Transportation, 1974).

[2] Gilbert M. Shimmel, et al. "Emerging Trends of Alcohol Use and Abuse Among Urban Youth." Study by the New York State Department of Mental Health and Hygiene. (New York City Board of Education, Hunter College, June 1974), mimeographed.

[3] "Young People and Alcohol", Alcohol Health and Research World, Summer 1975, DHEW Publication no. (ADM) 75-157, p. 3.

[4] National Institute on Alcohol Abuse and Alcoholism, "Drinking Motivations and Habits of Youth Illuminated by National Survey Results." NIAAA Information and Feature Service no. 18 (Bethesda, MD.: Department of Health, Education, and Welfare), November 26, 1975, p. 4.

The foregoing surveys and statements suggest that drinking patterns which might lead to drunken driving or other symptoms of alcohol abuse are being formed before students reach high school. Although still subject to adult guidance, 7th and 8th graders are beginning to "break away" and form their own behavioral patterns. They experiment with alcohol about the same time they begin to look forward to a driver's license. Now is the time to capitalize on their avid interest in driving to acquaint them with the nature and tragedies of alcohol abuse. Thus the rationale for this Junior High School Module in Alcohol Education and Traffic Safety.

Incidentally, alcohol education at the junior high school level is nothing new. It has had a long and undistinguished history grounded in moralistic teaching directed toward abstinence, and it has little meaning for today's teenagers.[1] Many of the facts taught in alcohol education have been irrelevant to the adolescent from his point of view, and many of the efforts to influence attitudes and behavior appeal to values which may not yet be developed (and may never be) among the adolescents whom we try to teach and reach. Therefore, the realities of the world in which the teenager lives and of his immediate future must be traded upon.[2]

The investigators believe that immediate concerns for obtaining and maintaining the driving privilege can be the "grabbers" for conveying information to 7th and 8th graders and for helping them form the attitudes

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[1]Reginald G. Smart, The New Drinkers: Teenage Use and Abuse of Alcohol, Program Report Series, no. 4 (Toronto: Addiction Research Foundation of Ontario, 1976), Chapter 9 Passim.

[2]Godfrey M. Hochbaum, "Learning and Behavior--Alcohol Education for What?", Alcohol Education: Conference Proceedings (Washington D.C.: U.S. Dept. of Health, Education, and Welfare, March 1966) p.31.

necessary for reducing alcohol abuse and avoiding one of its main symptoms -- drunken driving. To promote this outcome the Module addresses itself directly to the drinking and driving situations likely for 7th and 8th graders and gives them a chance to think and act out what they would do in those situations. Further, it emphasizes participatory teaching techniques of demonstrated effectiveness with this age group, such as role playing and games like *Celebrity Squares* (an adaptation of television's "Hollywood Squares") which build fun into learning on the theory that one learns better what one enjoys doing.

The premise for the Module is that students will be better able to avoid drunken driving and other situations involving alcohol abuse if they have:

-- knowledge about the influence of alcohol on the body and mind, and of the potentially serious consequences of drunken driving and other symptoms of alcohol abuse;

-- been encouraged through gaming activities and other techniques to assess their attitudes and behavior in relation to drinking;

-- practice in planning ahead of time the ways to cope with or avoid drinking situations dangerous for themselves and others.

The Module requires five forty-five minute classroom periods. Although it is questionable whether behavior in relation to alcohol abuse can be influenced by so limited an exposure, the chances are improved by the

fact that most students will be at the formative stage, and there is probably no firmly established pattern to break before another is learned.[1] Moreover, it is assumed that in high school the students will take a driver education course emphasizing the skills needed to drive safely and the influence of alcohol on them. It is also assumed that knowledge of alcohol and the results of abuse of it conveyed through the Module will be supplemented by courses in health, sciences, social studies, and by other experiences in school and community settings.

Goal and Objectives

As stated before, the goal of the Module is to help students improve their knowledge, attitude and behavioral intentions in relation to alcohol and traffic safety. To accomplish the goal we set forth 10 general objectives, sub-divided in 31 specific objectives for knowledge, attitude and behavioral intentions:

Knowledge Objectives

I Students will understand the nature of beverage alcohol.

They will be able to:

1. identify comparative amounts of alcohol in commonly used beverages,
2. categorize alcohol as a drug,
3. describe the food value of alcohol,
4. explain that the oxidation rate of alcohol is controlled by time alone.

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[1] Inter-Ministerial Committee on Drinking and Driving, Howard F. Morton, Ministry of the Attorney General, Chairman. Drinking--Driving in the Province of Ontario, a report to the Provincial Secretary for Justice (Ontario: The Committee, August 1974), p.39.

II Students will understand the influence of alcohol on body and mind.

They will be able to:

5. describe the temporary effects of alcohol on the body and mind,

6. identify factors determining the differential influence of alcohol on individuals.

III Students will understand the influence of alcohol on driving skills.

They will be able to:

7. describe the relationship between traffic accidents and alcohol consumption,

8. identify the reasons drinking poses particular risks for teenage drivers,

9. describe the relationship between drinking alcoholic beverages and blood alcohol content (BAC),

10. identify the BAC at which they could be arrested for drunken driving,

11. recognize how drinking adversely affects driving skills.

IV Students will recognize the influence of advertisements for alcoholic beverages on attitudes and behavior.

They will be able to:

12. identify the techniques used for advertising alcoholic beverages,

13. describe outcomes from the advertising of alcoholic beverages.

V Students will understand symptoms, problems, and interventions related to alcohol abuse.

They will be able to:

14. identify signs and symptoms of problem drinking,*

15. define alcoholism* as an illiness,

16. name resources available for help with drinking problems.

* Problem drinking and alcoholism are sometimes used interchangeably in the Module.

Attitudinal Objectives

VI Students will feel that there are outside pressures influencing their attitudes toward drinking.

They will be able to judge that:

17. advertising generally encourages drinking,

18. peers influence drinking behavior.

VII Students will feel that drinking may be desirable or undesirable.

They will be able to judge the desirability of drinking when done:

19. to escape reality,

20. to emulate adults,

21. to reduce emotional stress,

22. in moderation at festive and ceremonial occasions,

23. before driving.

VIII Students will feel that it is valuable to explore opinions regarding alcohol.

They will judge that it is worthwhile to assess:

24. personal drinking behaviors,

25. ways to prevent driving-while-intoxicated.

Behavioral Objectives

IX Students will be able to increase lines of communication with others in relation to alcohol.

They would be willing to participate in discussions:

26. in class on the problems of alcohol in the school, community and home,

27. exploring alternatives to alcohol abuse or misuse.

X Students will state their intentions to act in a responsible manner in relation to the use and abuse of alcohol by themselves and others.

They would be willing to:

28. refrain from riding with drivers whose ability has been impaired by alcohol,

29. attempt to prevent others from riding as passengers with a driver impaired by alcohol,

30. avoid drinking to the extent of losing control of their behavior,

31. respect a person's right not to drink.

General and specific objectives for each of the five lessons in the Module are stated at the beginning of the respective lesson; while numbered as those presented above, they are not always in sequence.

Evaluation

Various test battery forms, with complete instructions for administration, scoring and analysis of results, appear in Appendix D. Each form includes items to measure change in terms of each of the 31 objectives enumerated above, and takes about 20 minutes to administer. Information on the development of the test battery, and the results of its utilization at the field-testing sites, also appear in Appendix D.

Where time and resources permit, a *pre/post* test battery can be given on two occasions: (1) during the class in which the Pre-Module activities described below are assigned, and (2) at the end of Lesson Five. *Pre/post* testing will yield data for analysis of student change in terms of each of the 31 specific objectives, 10 general objectives and overall change in the categories of knowledge, attitudes and behavioral intentions. A second *post* test can be given at a later date to see if change holds up with time. Details for *pre/post* testing are found in Appendix D.

Where only one test administration seems desirable, a *post* test should be given at the end of Lesson Five. Scores can determine where students are in terms of knowledge, attitudes and behavioral intentions. Details for *post* administration only appear in Appendix D.

In addition to test scores, performance on take-home assignments and classroom participation can be used for assigning grades. Suggestions of this nature are incorporated into the respective lessons of the Module.

Appendix D (pages 131-132) contains forms for critique of the Module by students. These could be used along with the test batteries for program evaluation.

Pre-Module Activities and Assignments

If possible, the Module should be integrally related to what precedes and follows in the course in which it is offered. The following Pre-Module activities were designed to let the students know what to expect and to excite their interest. Further, the more activities the instructor can organize and explain before implementing the Module, the better the chances for accomplishing more than might otherwise be possible within five class periods.

In a class period one or two days or so prior to taking up the Module, the instructor should administer a *pre* test battery if he intends to give one. At the conclusion of the testing, the instructor should

describe the AL-CO-HOL Scoreboard (see below), which lists some of the activities in which the students will participate and in which they can score points for their respective groups during the five lessons of the Module.

AL-CO-HOL SCOREBOARD

Period_____	AL	CO	HOL
Celebrity Squares			
Total Ads			
Find the Word			
Question/ Answer Contest			
Total Interviews			
Crossword Puzzle			
Total Paragraphs			
Total Resources			
Total Points			

Class members should be divided into three groups--AL, CO and HOL-- and a list made of the respective members of each. (The list can be stapled to the bottom of the scoreboard for reference.) The instructor should then explain that points will be awarded for various activities, and that the group earning the most by the time the Module has been completed will be the winner. The rewards for winning should be described clearly. Just the pride of winning may be enough motivation for some.

However, if the instructor feels an additional reward is desirable, winners might well receive higher grades or be acknowledged in whatever way the instructor finds motivational and appropriate. The Scoreboard will show the cumulative point totals earned by each group after the completion of each gaming activity in the Module. Depending on the time available, the instructor might also explain *Celebrity Squares* (details for which appear on pages 28-31), a game to be played during Lessons One and Two.

To help students understand the AL-CO-HOL scoreboard and to be prepared for *Celebrity Squares*, the instructor will distribute a description of these items (pages 20-21), to be taken home and read by the students.

Finally, the pamphlet, *ABC's of Drinking and Driving,** should be distributed, and students assigned to read it prior to the first lesson in order to gain some background information related to alcohol and traffic safety, to be used in playing *Celebrity Squares*.

Organization of Lessons

As indicated earlier, there are five classroom lessons of 45 minutes each. Objectives are specified for each lesson. Then comes an overview of the content, techniques and materials the instructor will need to conduct the lesson. At the end of each lesson, homework is assigned for the next lesson.

The lesson itself is presented under the headings Activity, Description, Minutes and Total Minutes Elapsed. Under Activity, the specific classroom activity is designated--*Question/Answer Survey, Alcohol: How Much is Too Much?, Celebrity Squares, etc.* Under Description, the Activity is described along with what it is expected to convey.

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* Channing L. Bete Co., Inc., Greenfield, Massachusetts.

Minutes means the number needed for each Activity, and Total Minutes Elapsed indicates the total time required for the activities thus far described in that lesson.

Each lesson is followed by instructional aids which obtain for that lesson. For clarity, the following chart lists by lesson all of the materials needed for the Module.

MATERIALS FOR THE MODULE

Pre-Module (one or two days before Lesson One)	*Pre* test battery (optional for administration to students -- See Evaluation, page 9).
	AL-CO-HOL Scoreboard(s) -- one for each class, page 22 (for explanation to students). These should remain posted throughout the Module.
	List of class-members divided into three groups: AL, CO, HOL (for reading to and posting for students).
	Description of AL-CO-HOL Scoreboard, and *Celebrity Squares*, pages 20-21 (for distribution to students to take home and read).
	Pamphlet, *ABC's of Drinking and Driving* (for distribution to students as first take-home assignment).
Lesson One	*Film, *Alcohol: How Much is Too Much?* (for showing to students).
	**Nine cards, numbered 1-9, page 50 (for desks of "celebrities").
	**Suggested questions and answers for *Celebrity Squares*, pages 42-49 (to be asked by instructor and answered by students). The instructor may find it helpful to place individual questions and answers on separate cards.
	Mini AL-CO-HOL Scoreboards, page 51 (for instructor's use in keeping score).
	Take-home assignments for Lesson Two, including *Find-the Word* forms, pages 53-55. (One copy is for instructor's use, the other is to be distributed to students.

* Available from Film Fair Communications, 10900 Ventura Boulevard, Studio City, California 91604.

** Should also be kept available for use during Lesson Two.

Lesson Two	*Find-the-Word* sheet with selected words underlined for class discussion. Picture of an alcohol-related traffic accident taken from a recent local newspaper like the sample on page 69 (to be discussed with students). Package of 8-1/2 x 11 paper and 3 magic markers (for the *Question/Answer Contest).* Poster showing Wine=Beer=Whiskey in usual servings, page 70 (to be shown to students). Take-home assignment for Lesson Three, including *Crossword Puzzle* forms, pages 71-72. (One copy is for instructor's use, the other is to be distributed to students.)
Lesson Three	*Crossword Puzzle* (page 73) with selected words underlined for emphasis in class. *Mix and Match* names, number of drinks, and clocks, page 83 (to be used in the conduct of this activity). *Risks and Rewards* sheet, page 84 (to be distributed to students). Take-home assignment for Lesson Four, including questions and statements for paragraph writing, page 85 (to be distributed to students).
Lesson Four	Situations for *Simulations*, pages 93-97. "Props" such as drinking glasses, empty beer cans and wine bottles, paper sacks, etc.
Lesson Five	*Simulations* and "props" as for Lesson Four. *Post* test battery (for administration to students). Full instructions for administration and analysis are found in Appendix D.
Post-Module (at the beginning of the class session immediately following the completion of the Module)	Forms for evaluation of Module by students, pages 131-132 (optional).

Take-Home Assignments

While take-home assignments are presented in other parts of the Module,* they are summarized here to help the instructor understand the total amount of work asked of the student, outside the class, in what is essentially a six to seven-day period for the conduct of the Module. Assignments alongside Lesson One are to be completed by Lesson Two; those for Lesson Two by Lesson Three and so forth. Thus there is no assignment alongside Lesson Five. The summary of take-home assignments on page 17 should clarify this. Take-home assignments with appropriate comments should be returned to students as soon as possible.

Pre-Module

Read *ABC's of Drinking and Driving.*
Read Description of AL-CO-HOL Scoreboard and *Celebrity Squares.*

Lesson One

1. Cut out an ad for an alcoholic beverage. Attach it to a sheet of paper and write on it whether or not you think the ad will be successful in selling the beverage and why. Does the ad seem to be appealing to more than the reader's possible interest in the beverage?
2. Try to complete *Find-the-Word* yourself or with help from your family. (The group whose members find the most words will receive five points on the AL-CO-HOL Scoreboard; three points will be awarded for second place and one point for third.) To be sure proper credit is given place the name of your group on each ad and *Find-the-Word* form you turn in.

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* Take-home assignments are incorporated into the lessons to which they apply and appear again in the Instructional Aids following each lesson in such form that they can be easily duplicated for distribution to students.

Lesson Two

1. Interview one teenager and one adult to determine the reasons each does or does not drink and on what occasions he/she feels drinking is acceptable. Prepare a written list of responses.
2. Try to complete the *Crossword Puzzle* yourself or with help from your family. (The group with the largest number of members turning in completed puzzles will score five points on the AL-CO-HOL Scoreboard; three points for second place and one for third. To be sure proper credit is given, write the name of your group on the crossword puzzle when you turn it in.)

Lesson Three

1. Select one of the following questions (a, b, c, d, or e) and respond in writing as honestly as possible in about 50 words (or one big paragraph).
   a. Do you think drinking is a problem for teenagers? Why or why not?
   b. Describe what you think of a teenage girl or boy who gets drunk. How do you think his or her getting drunk affects other boys and girls?
   c. "Inexperienced drivers who are also inexperienced drinkers are especially dangerous." Why?
   d. You are the only non-drinker at a party and everyone urges you to have a drink. What would you say and/or do?
   e. Your friend, who's to drive you home, acts as if he/she's had too much to drink. What would you say and/or do?

Lesson Three (continued) 2. Make a list of places at which a person could get help for problem drinking. Whom might you ask to get this information. (Suggestions -- ask parents, teachers, clergy; also check telephone directory, newspapers, radio and T.V. stations.)

Please indicate your group on the papers you turn in -- written paragraph and list of resources. These will be read carefully and points assigned in terms of the quality of the effort.

SUMMARY OF TAKE HOME ASSIGNMENTS

	Assigned and Distributed	Collected	Returned
Pre-Module	1-2 days before Lesson One	_____	_____
Lesson One	at end of Lesson One	at beginning of Lesson Two	as soon as possible
Lesson Two	at end of Lesson Two	at beginning of Lesson Three	as soon as possible
Lesson Three	at end of Lesson Three	at beginning of Lesson Four	as soon as possible
Lesson Four	at end of Lesson Four	to be used in Lesson Five	as soon as possible
Lesson Five	No assignment unless the instructor decides to follow-up with Post-Module activities such as those described on page 116.		

Appendices

The Module has four appendices. Appendix A gives the rationale for combining alcohol education and traffic safety at the junior high school level. Appendix B supports participatory teaching techniques. Appendix C is a listing of professional references with selected annotations the instructor

can use personally or share with interested students. Appendix D describes all aspects of evaluation of the field-testing version of the Module, including evaluation forms utilized and the results and analysis of the administration of *pre/post* test batteries at the field-testing sites. Appendix D also contains *pre/post* test batteries with complete instructions for administration, scoring and analysis of results.

OVERVIEW OF LESSONS ONE THROUGH FIVE

This chart is an overview of what happens lesson-by-lesson and how much time it takes.

	Approximate Minutes	
Pre-Module		
Administration of pre-test battery (optional)		(20)
Description of AL-CO-HOL Scoreboard and *Celebrity Squares*	10	
Orientation, distribution of take-home assignments	5	
Total	15	(35)
Lesson One		
Question/Answer Survey	5	
Film -- *Alcohol: How Much is Too Much?*	15	
Celebrity Squares	20	
Explanation and distribution of take-home assignments	5	
Total	45	
Lesson Two		
Collection of take-home assignment and discussion of selected words from *Find-the-Word*	5	
Discussion of alcohol advertising	5	
Question/Answer Contest	10	
Mini-lecture	10	
Completion of *Celebrity Squares*	10	
Explanation and distribution of take-home assignment	5	
Total	45	

	Approximate Minutes
Lesson Three	
Collection of take-home assignment and reporting of scores from previous take-home assignments (Ads and *Find-the-Word)*	5
Discussion of some selected words from the Crossword Puzzle	5
Review of Mini-Lecture Material	5
Mix and Match	5
Risks and Rewards	10
Brainstorming	5
Discussion of decision-making process	5
Explanation and distribution of take-home assignment	5
Total	45
Lesson Four	
Collection of take-home assignment and reporting of scores from previous take-home assignments (Crossword Puzzle and interviews)	5
Simulations	25
Group discussion of interview results	10
Explanation and distribution of take-home assignment	5
Total	45
Lesson Five	
Small group discussions to set up original simulations	10
Presentations of original simulations	15
Administration of *post* test battery	20
Total	45
Post-Module	
Administration of forms for evaluation of Module by students (optional)	(10)
Total	(10)

Complete details follow (pages 23-102) for the conduct of each of the five lessons.

DESCRIPTION OF AL-CO-HOL SCOREBOARD AND *CELEBRITY SQUARES*

The AL-CO-HOL Scoreboard is a poster which lists most of the activities in which you will participate during five lessons about alcohol and traffic safety. Each of you will be assigned to a group called AL, CO or HOL, and each group will have an opportunity to score points in the activities listed on the scoreboard.

AL-CO-HOL SCOREBOARD

Period	AL	CO	HOL
Celebrity Squares			
Total Ads			
Find the Word			
Question/Answer Contest			
Total Interviews			
Crossword Puzzle			
Total Paragraphs			
Total Resources			
Total Points			

Celebrity Squares is a game in which you will participate at various times. It is played with the same rules as the TV show "Hollywood Squares". Each group (AL, CO or HOL) will have an opportunity to be the celebrities while the other two groups will attempt to complete a Tic-Tac-Toe.

Example: The AL group becomes the celebrities and are given numbers 1-9

The CO group becomes the "X" team, and

The HOL group becomes the "0" team.

Step:

I The "X" team selects one of the celebrities with the corresponding number of the box they wish to score in.

II The instructor asks a question and the celebrity answers correctly or tries to bluff.

III The "X" team will have 15 seconds to discuss among themselves if they agree or disagree with the celebrity's answer.

IV If the "X" team is correct they will receive an X in the box selected. If they are incorrect an 0 will be placed in that box.

V Steps I-IV are repeated with the "0" team selecting a celebrity.

VI Play will continue until the tic-tac-toe is completed.

Each group, in turn, will have a chance at being "celebrities" after each completed tic-tac-toe game. One point will be given to the group successfully completing the tic-tac-toe.

1	2	3
4	5	6
7	8	9

Celebrities

"X" Team

"0" Team

AL CO HOL Scoreboard

Period	AL	CO	HOL
Celebrity Squares			
Total Ads			
Find the Word			
Question/Answer Contest			
Total Interviews			
Crossword Puzzle			
Total Paragraphs			
Total Resources			
Total Points			

LESSON ONE

Alcohol The Drug and Its Effects

*General Objective I (Knowledge)

Students will understand the nature of beverage alcohol.

*Specific Objectives--They will be able to:

2. categorize alcohol as a drug,

3. describe the food value of alcohol.

General Objective II (Knowledge)

Students will understand the influence of alcohol on body and mind.

Specific Objectives--They will be able to:

5. describe the temporary effects of alcohol on the body and mind,

6. identify factors determining the differential influence of alcohol on individuals.

Overview

Content

Alcohol is a drug which depresses the central nervous system. Beverage alcohol is known as ethyl alcohol or ethanol. Wine, beer and whiskey are the most common types of beverage alcohol.

Alcohol acts as a sedative or "downer" in proportion to the quantity consumed. However, because it relaxes the brain cells which control inhibitions, alcohol is often mistaken as a stimulant.

Alcohol can be classified as a food because it supplies energy--one ounce yields 75 calories (roughly the same number as an apple or banana). But these are "empty" calories as they do not provide minerals, vitamins, or other

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*While numbered the same as the general and specific objectives for the Module presented on pages 6-9, the objectives by lesson do not appear in numerical order.

essential nutrients. Furthermore, while alcohol seems to stimulate the appetite it actually depresses it. With a moderate amount of alcohol gastric juices are increased, but large amounts of alcohol inhibit both appetite and digestion. (In some persons alcohol may go so far as to produce a spasm of the valve at the end of the stomach, causing nausea and vomiting.) Unfortunately, therefore, excessive use of alcohol over the years, as a substitute for other foods, produces nutritional deficiencies and related diseases.

Unlike most other foods, alcohol does not need to be broken down to be digested. It is almost immediately absorbed through the stomach and small intestine directly into the blood stream and carried to other parts of the body. Certain factors slow down the absorption of alcohol, thereby reducing its effects. Bodyweight is one of them. The teenager who has not reached his full weight will feel the effects of a given amount of alcohol more rapidly than an adult who weighs more. Food in the stomach (especially proteins and starches, the latter of which seems to serve something like a "sponge") will slow the rate of alcohol absorption. Therefore the individual who drinks on an empty stomach will feel the effects faster than if he had drunk the same amount of alcohol on a partially full or full stomach. Drinking slowly instead of "downing" or "gulping" drinks will help control the effects of alcohol by spreading absorption and oxidation over a longer period of time.

The information above is to be communicated through the following techniques.

Techniques

The lesson begins with a *Question/Answer Survey* intended to involve students in the Module by asking them for their observations about drinking in real-life experiences. Then the film, *Alcohol: How Much is Too Much?* is shown. In order to save time the film should be threaded and focused before class begins. The instructor should also preview the film to be better prepared for the discussion which follows the showing. For an even better grasp of the film, the instructor might well read the full sound track found on pages 33-37.

Through an academic gaming activity, *Celebrity Squares*, students will have the opportunity to review and confirm information presented in the pamphlet, *ABC's of Drinking and Driving*, and in the film, *Alcohol: How Much is Too Much? Celebrity Squares* has the same rules as "Hollywood Squares",the popular TV show. Groups AL, CO, and HOL alternate being celebrities and contestants in attempting to complete a Tic-Tac-Toe. Suggested questions and answers for the game are supplied on pages 42-49, but the instructor is free to supply his own. (The authors suggest that these be placed on individual cards for easier use.) It is necessary to complete three rounds of the game in order for each group to have an equal opportunity to score points.

Materials Needed (See Instructional Aids -- Lesson One, pages 33-55.)

Film, *Alcohol: How Much is Too Much?* (for showing to students).

*Nine cards, numbered 1-9, page 50 (for desks of "Celebrities").

*Suggested questions and answers for *Celebrity Squares*, pages 42-49 (to be asked by instructor and answered by students).

The instructor may find it helpful to place individual questions and answers on separate cards.

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*Should be kept available for use during Lesson Two.

Mini AL-CO-HOL Scoreboards, page 51 (for instructor's use in keeping scores if immediate posting on the larger scoreboard is inconvenient).

Take-home Assignments for Lesson Two, including *Find-the-Word* forms, pages 53-54 (to be distributed to students).

Activity	Instruction Description	Minutes	Total Minutes Elapsed
Question Answer Survey	The instrucor starts the lesson by saying,"Today we begin a new unit and the topic is Alcohol Education and Traffic Safety." He then goes directly into the *Question/Answer Survey* to encourage students to share their observations of actual drinking practices, with the caution that no specific names or relationships are to be revealed in answers to the following questions:	5	5

1. (By raising of hands) -- "How many of you know someone who drinks an alcoholic beverage?"

Most students, if not all, will raise their hands, thus helping them feel a part of what is going to happen next.

2. "What kind of beverages do they drink?"

Responses may be very specific: scotch and soda, martinis, beer or wine and the like.

3. "On what occasions do they drink?"

Answers may include parties, weddings, before-or-after dinner, after work, religious rites, sporting events, and so forth.

4. "Have you ever observed someone who has had more than a couple of drinks? If yes, how did he or she behave?"

Some may say there was no change, while others may respond with words such as silly, tough, spoke funny, got loud, staggered, knocked things over, became too generous, acted differently, and so forth.

Activity	Description	Minutes	Total Minutes Elapsed
	5. "Why do some people react differently from others when they drink?" *Responses may include can't hold it, didn't eat, drank too much, not used to drinking, wanted to be funny, and so forth.* The instructor summarizes by saying that it seems many (if not all) of the students have seen people drink alcoholic beverages and know that the effects can vary widely. He then says, "Perhaps we can learn more about the effects of alcohol by watching the film *Alcohol: How Much is Too Much?* Watch carefully because some of the questions used in our next activity will be answered in the film."		
*Film: *Alcohol: How Much is Too Much?*	The film presents important facts about alcohol and its use and misuse. It is intended to promote realistic attitudes and intelligent decision-making in relation to drinking. (The full sound track appears on pages 33-37.)	15	20
Celebrity Squares	The instructor then states, "Instead of discussing the film, let's use the information gained from it and from the pamphlet *ABC's of Drinking and Driving* in a game which will give you an opportunity to score points on the AL-CO-HOL Scoreboard. The game is called *Celebrity Squares* and is played with the same rules as "Hollywood Squares", the TV show. Remember? I hope you are all familiar with the rules, for we went over them last time	20	40

*If this film is unavailable, *To Your Health* is suggested as a very comparable substitute. Full sound track and availability details are found on pages 38-41.

Activity	Description	Minutes	Total Minutes Elapsed

we met, and I gave you a description of them to read for today's lesson. But do any of you still have any questions about them?" (If yes, the instructor should respond as appropriate and then proceed.) Group AL will be the "celebrities" first and the other two groups will compete in *Tic-Tac-Toe*. All three groups will have a chance to be "celebrities" by rotating at the end of each *Tic-Tac-Toe* completion.

INSTRUCTIONS FOR PHYSICAL SET UP

Nine desks are to be placed in front of the class with a chalkboard behind them. Each desk will have a number on it (1-9). On the chalkboard will be a large square for *Tic-Tac-Toe* with numbers in each smaller square. (This should be set up before the lesson begins.)

Group AL will be the "celebrities" first and sit in the 9 desks up front. (If there are fewer than 9 students in a group, some members will have to take two numbers and represent both squares. If there are more than 9 students in a group two students will

Activity	Description	Minutes	Total Minutes Elapsed

have to share one number and confer on the answer.) The other groups, CO and HOL, will then compete in *Tic-Tac-Toe*. Team members may confer for 15 seconds to help the person decide whether to agree or disagree with the celebrity's answer.

Each group, in turn, will have a chance at being the "celebrities" after the completion of each *Tic-Tac-Toe*.

Group CO (X team) chooses a celebrity, and the instructor asks a question. If the "X Team" correctly agrees or disagrees with the celebrity's response, the celebrity or the instructor gets up and puts an (X) in the tic-tac-toe box with the number corresponding to the one on his desk. If the (X) team is wrong, an (O) is placed in the box. The instructor acts as moderator. Questions posed will be based on the *ABC's of Drinking and Driving* and on the film, *Alcohol: How Much is Too Much?* Suggested questions and answers are found on pages 42-49, but the instructor is free to make up his own. (It is helpful to place individual questions and answers on separate cards.) The HOL group (O team) goes next and they alternate until *Tic-Tac-Toe* is completed. The winning box can be won only by a correct team answer, not by default.

(Note: Any time there is difficulty in answering the questions correctly, the instructor should consider it a "teachable moment" and use the situation accordingly.)

After each *Tic-Tac-Toe* completion, a point is scored for the winning group on the AL-CO-HOL Scoreboard. The instructor must

Activity	Description	Minutes	Total Minutes Elapsed
	make sure there is time to give each group an equal opportunity to score, and this most probably will mean playing *Celebrity Squares* again during Lesson Two.		
Take-Home Assignment	The instructor distributes and explains the take-home assignment for Lesson Two. The time needed to complete both questions will vary depending on the amount of attention the student wishes to give to *Find-the-Word* Students interested in scoring points for their group on the AL-CO-HOL Scoreboard may take more time. 1. Cut out an ad for an alcoholic beverage. Attach it to a sheet of paper and write on it whether or not you think the ad will be successful in selling the beverage and why. Does the ad seem to be appealing to more than the reader's possible interest in the beverage? 2. Try to complete *Find-the-Word* yourself or with help from your family. (The group whose members find the most words will receive five points on the AL-CO-HOL Scoreboard; three points will be awarded for second place and one point for third.) To be sure proper credit is given place the name of your group on each ad and *Find-the-Word* form you turn in. (Note: Two forms of *Find-the-Word* appear on pages 54 and 55. One is a sample to be used by the instructor, and the other is to be distributed to the students). It is suggested that the following procedures determine the number of points to be awarded to the respective groups.	5	45

Activity	Minutes	Total Minutes Elapsed

1. At the beginning of Lesson II collect and collate the ads and *Find-the-Word* forms by group.
2. Count the total number of ads submitted by each group. The group with the highest number of ads should receive five points; second highest, three points; and lowest, one point.
3. For *Find-the-Word* add the total words found on each of the sheets submitted by the individual members of each group. As the groups might vary in number, the total for each group must be divided by the number of members. The group averaging the highest number should receive five points; second, three points; and lowest, one point.

These procedures should occur between Lessons Two and Three so that scores can be posted on the AL-CO-HOL Scoreboard by the beginning of Lesson Three.

SOUND TRACK FOR THE FILM

**Alcohol: How Much is Too Much?*

From one point of view there are two machines in this picture, for people require fuel to produce energy just as machines do. But no machine is nearly as fantastic as the human body. The body acquires its energy from a very complex combination of fuels, which are taken from many sources. With our machines we're very careful to put in only exactly the right fuel. But what about ourselves? Not satisfied with what we need, we fill up with practically anything, whether it's good for us or not.

Alcohol is one of the non-fuel extras people take, but it can cause a lot of trouble if we take too much. *How much is too much?* Perhaps on a warm afternoon you've noticed someone getting sleepy after drinking a few beers. The alcohol in beer is a drug which affects the functioning of the body. There are drugs--chemicals which affect us--in many substances we take into our bodies. Most of these are not healthy. But usually the chemical is contained in such a very small amount that there is no immediate dangerous effect on our health. The alcohol in beverages is a type called ethyl alcohol. Like other drugs it is often used in medicines such as cough syrup. But completely apart from its use in medicine, some people drink alcohol because they enjoy it. People have been drinking it for thousands of

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*Eleven Minute, semi-animated color film available from Film Fair Communications, 10900 Ventura Boulevard, Studio City, California 91604

years. But when misused, any substance can be harmful. Alcohol is not just any substance. It is a very powerful drug and sometimes some people drink too much. *How much is too much?*

As a first step to an answer, let's see how alcohol affects a fish. If we add alcohol to the water, as the fish breathes, the alcohol will enter his blood stream. We will not give him enough to kill him, but he will probably have a very bad headache when he recovers. Relative to its size we are giving the fish about the same amount of alcohol which would intoxicate a one-hundred-fifty-pound man. The overall effect of alcohol is described as intoxication or, in more everyday terms, drunkenness. Whatever we call it, it's pretty obvious that friend fish has had too much. *How much is too much?*

Let's look again at what happens when alcohol is taken into the human body. On reaching the stomach, alcohol is not digested. It passes through the walls of the stomach and small intestine into the blood stream and then to the brain. When a man weighing one hundred fifty pounds takes one drink containing one-half ounce of alcohol, the alcohol reaching his brain begins to affect his ability to make decisions. With three drinks, reaction time and coordination are impaired. After five drinks, vision, speech, and balance are affected. With eight drinks he has trouble walking and standing. If our one-hundred-fifty-pound man goes as high as twenty drinks containing one-half ounce of alcohol each, he will lose consciousness. And if he could consume twenty-five before he passes out, he might die. Continued heavy use of alcohol destroys tissue in the brain, the kidneys and the liver.

Some people develop a disease called alcoholism. They develop a dependency on alcohol and seek to be frequently or continually intoxicated. The continuing need for alcohol not only slowly destroys their health but creates terrible problems with family and work. Some alcoholics leave life behind and think of nothing but the next drink. But the long-term effects of heavy drinking are not the only dangers of alcohol. Each and every time a person drinks, he must respect the powerful nature of alcohol. A little too much and the effect of alcohol can cause him to be a problem and a nuisance to others. At worst, a little too much at the wrong time and the effects of alcohol can lead to tragedy.

The misuse of alcohol may be caused by a number of personal, emotional, and social problems. But alcohol is not often misused by a person who is mature enough to respect himself and others, and who has enough information to give him a healthy respect for the power of alcohol. The decision to drink or not to drink is a decision which each individual must make for himself. When a person decides to join those who drink alcoholic beverages, there are other facts about alcohol which it is very important to know.

Alcohol has different effects on different people at different times. Alcohol taken on an empty stomach will affect the drinker more quickly because it can be absorbed more readily by the stomach and intestinal walls. Generally, a large person, compared with a smaller one, will show less effect from the same amount of liquor, simply because he has more blood in which the alcohol is diluted.

The period of time over which alcohol is consumed varies the effect on the drinker. Three drinks in one-half hour will make one much more intoxicated than three drinks in two hours. But whatever the variables may be, even a small amount of alcohol has an effect on the drinker, and he must exercise his judgment as to where and when he drinks, and--most important--to know *how much is too much.*

But because of the effects of alcohol, people find themselves with a lessened ability to judge and make decisions at a time when they need that ability most. This situation is probably most dangerous to the new drinker, for he has little or no experience in dealing with the effects of alcohol. Because a person feels relaxed and his inhibitions have been lowered, it's easy for him to feel overconfident when he should be more cautious. Many drinkers, especially new drinkers, who are ordinarily mature and responsible people, find themselves misusing alcohol before they realize *how much is too much.*

Some day you must make the decision whether you will be one of the millions of people who do not drink or one of the even more millions who do. A shot of whiskey, a cocktail, a glass of wine, a glass of beer--each of these contains about the same amount of ethyl alcohol--about one-half ounce--a powerful drug that changes the way the body functions. The human body, just as a machine, will not function well with too much of the wrong kind of fuel. Alcohol is dangerous when misused. It must be used with respect and maturity. When the time comes, if you decide that you shall be one who drinks, that's not the

really big decision that requires maturity. With alcohol all the little decisions are really big ones. For if a person has respect for himself and others, every time he drinks he must be aware that the drink in his hand contains a drug; and every time he drinks, he must make the decision about *how much is too much.*

SOUND TRACK FOR THE FILM

**To Your Health*

Here is any man, John, Johann, Juan, or Jacque.

a te Sante, Salud, Prosit, Your Health!

Alcohol, what is alcohol, anyway?

Alcohol is the root of all evil. Down with King Alcohol!

Have you tasted the delicious flavor of Bacchus' sparkling nectar? Its drinking causes most of the world's misery.

It's the miserable state of the world that causes so much drinking.

Why can't I get some unprejudiced opinions? Some facts.

Facts? For years alcohol students have experienced, analyzed, and weighed the evidence. So far this is what we know. Alcoholic beverages can be made from almost any fruit or grain, each containing different amounts of ethyl alcohol. Alcohol, of course, enters the stomach and intestines and from there it's rapidly absorbed unchanged into the blood stream. In this stream it's circulated again and again through all the organs through each and every cell of the body. As it passes through the liver, alcohol is gradually changed into acidaldyhyde and then into

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*Eleven minute, animated color film available from Center for Mass Communication, Columbia University Press, 440 West 110th Street, New York, New York 10025.

acetic acid which in its turn is changed into water and carbon dioxide by other body tissues. In this way most of the alcohol is gradually oxidized but for a small part which is eliminated through the breath and the kidneys.

But drunkenness, how is that caused?

Well, you see, alcohol is an anesthetic which is brought to the brain in the blood stream. Imagine the brain as a complex control center which determines our actions and behaviors. When alcohol enters the brain it interferes with these functions. First to be affected is reasoning power, then inhibition, and memory. Gradually alcohol affects vision, speech, and hearing. Eventually muscular coordination is affected. If all these facilities are put to sleep your consciousness goes, leaving only the automatic processes, such as the control of breathing. If this is overcome, the heart stops.

Then alcohol must be very dangerous.

Very few people die from taking too much alcohol at one time but there are other dangers. See what I mean?

Why, why do people drink?

Most people drink because it's the accepted custom. Some drink to escape the tension of everyday life. But for a few people, alcohol becomes an obsession. Such a man begins with some deep conflict in his personality.

His friends drink for relaxation, but when he drinks, it's to escape his conflict, so he begins to look for drinking occasions as often as possible. When he can't find any other excuse, he sneaks a drink alone. Eventually there comes a time when he pulls a blank, forgetting everything he'd said or done. Later, when sober, he can remember only fragments. Now, after a few drinks, he can't stop. For him, alcohol is no longer a beverage, it's become a drug. Then follows reproof, resentment, aggression, remorse. He loses his job. He tries to start again in another town. It doesn't work. He can't begin the day without a drink. And after one drink he must have more, and more, and more, more until --- he lands in prison or the hospital depending on whether his community understands that he's not a criminal but a sick man for whom the only price of freedom is to break away completely. This isn't easy, he needs help. There are doctors, social workers, and nurses, who understand the alcoholic and can help him. And there are those who once were alcoholics themselves whose understanding comes from experience, Alcoholics Anonymous.

But why do people continue to drink in spite of these dangers?

Alcohol has been used since the beginning of time when it was believed to be the stream of life. A brotherhood of blood later became a brotherhood in wine. A contract signed and sealed in alcohol would not be broken. Birth, betrothal, marriage, all celebrated in the cup. The roots of superstition are deep. Listen...

Look how well Bill holds his liquor. He's a real man!

But Doctor, if I stop drinking people will think I'm peculiar.

You see, alcohol means many things to many people. To some it means relief, and to some, torture. The problem stands, will alcohol control us, or can we control alcohol?

SUGGESTED QUESTIONS AND ANSWERS FOR *CELEBRITY SQUARES*

(Questions and answers are intended to convey content presented on pages 23-24 as well as to reinforce content in the pamphlet, *ABC's of Drinking and Driving* and the film, *Alcohol: How Much is Too Much?* The instructor may find it helpful to place individual questions and answers on separate cards.)

1. Is alcohol a stimulant or a depressant?

   A depressant (of the central nervous system).

2. What kind of alcohol is found in beverages, methyl or ethyl?

   Ethyl. Methyl is a poison.

3. There is as much alcohol in 1-1/2 ounces of whiskey (the usual "shot" size) as there is in how much beer?

   Twelve ounces (the usual amount contained in a can).

4. What does BAC stand for?

   Blood alcohol content, which in turn means the percentage of alcohol in the blood stream.

5. With what BAC can you be convicted of driving while intoxicated (DWI)?

   0.10 percent.

6. Through what two organs is alcohol absorbed quickly and directly into the blood stream?

   Stomach and small intestine.

7. What are some reasons people may react differently to the same amount of alcohol?

   Body weight (more blood to dilute alcohol), amount of food in stomach, mood or attitude, previous experience with drinking, speed of drinking, type of beverage, rate of metabolism of alcohol for the individual.

8. What is the best way to sober up?

Time (to allow oxidation to occur) is the only way.

* 9. Is it good to drink in cold weather?

No. While alcohol temporarily increases circulation, the brain soon slows down the heart rate, contributing to a loss in sense of feeling. The drinker is cold, but does not feel the cold.

10. Is alcohol a drug?

Yes. It is a depressant which affects behavior and can cause withdrawal symptoms.

11. Is it a sign of masculinity to be able to "hold your liquor"?

No. The capacity depends on body size, experience with drinking, etc. See answers to question # 7.

12. Do one's judgment and coordination improve after a few drinks?

No. A feeling of well-being might cause one to think so, when in reality one's judgment and coordination are being impaired.

13. Can one get drunker by switching drinks than by taking the same amount of alcohol without switching?

No. The amount of alcohol in the beverage is what intoxicates a person, not the mixes or flavorings.

14. In the usual size servings, can six glasses of wine affect you as much as six glasses of whiskey and water?

Yes. They contain the same amount of alcohol.

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* Questions and answers marked with an asterisk are not covered in the pamphlet or film.

15. How long does it take to oxidize the average drink?

About one hour.

16. Does everyone react the same way to the same amount of alcohol?

No. There are many influences. Some are presented in the answer to question # 7.

17. Does liquor taken straight affect you faster than liquor mixed with water?

Yes, somewhat faster. Undiluted whiskey will reach the blood faster, in greater concentrations than whiskey diluted by water.

18. What is the most abused drug in the U. S. today?

Alcohol. There are approximately 9 million alcoholics, a far greater number of persons than those addicted to any other drug--except nicotine and caffeine. But the consequences of alcohol abuse generally are more serious than those suffered by nicotine and caffeine abusers.

19. Must alcohol be digested in order to get into the blood stream?

No. It is absorbed immediately into the blood stream directly from the stomach and small intestine without being digested.

20. What organ breaks down 90 percent of the alcohol?

The liver. The other 10 percent is removed through urination (kidneys) and breathing (lungs).

21. Can a person die from drinking too much alcohol?

Yes. Alcohol is a depressant and can depress respiration and heart beat to the point of death.

22. Is alcohol a useful food?

No. While alcohol contains calories, it has no vitamins, minerals, proteins, or other nutrients.

23. Are drunkenness and alcoholism the same thing?

No. Drunkenness may be temporary and occasional and under the control of the drinker. Alcoholism reflects inability to control drinking once it is started on any occasion.

24. What are two symptoms that should warn people that their drinking may be leading to alcoholism?

Blackouts, sneaking drinks, drinking in the morning, denying one has been drinking, gulping drinks, loss of control of drinking, etc.

25. Is the alcoholic himself the only one who can receive help in dealing with his alcoholism?

No. Relatives, friends, or significant others can go to Al-Anon or Alateen, among other agencies.

26. Are there just a few Alcoholics Anonymous (AA) groups available to the alcoholic?

No. AA groups are found in most every community or surrounding area, and hold meetings day and night to reach those who need help.

27. Is alcoholism one of the most misunderstood diseases?

Yes. Alcoholism is mysterious and complex, seldom with visible, tangible causes.

28. Is alcoholism a treatable disease?

Yes. Although it cannot be cured, it can be "arrested" or controlled.

29. Does drunkenness of an individual clearly show that he is addicted to alcohol?

No. But he may be on the way. (Also see answer to Question # 23.)

30. Does a drink taken with food have less effect than one taken on an empty stomach?

Yes. Some alcohol is absorbed by food, or diluted by the water in the food, and does not immediately enter the blood stream in large amounts or high concentrations.

31. What is the first function affected by drinking alcohol?

Judgment. Alcohol goes quickly to the brain and one cannot think as quickly or as clearly as when sober.

32. Can too much alcohol consumed in a short period of time cause unconsciousness and/or death?

Yes. An overdose can depress respiration and stop heartbeat to the point of unconsciousness or death.

33. Is there a fixed rate of alcohol oxidation by the body?

Yes. The oxidation rate is one-half to three-quarters of an ounce of alcohol per hour.

*34. Are the calories one takes by drinking alcohol stored in the liver?

No. They are used right away.

*35. Is alcohol high in nutrients?

No. Alcohol is high in calories but has no nutrients. (See answer to question # 22).

---

*See footnote on page 43.

*36. Can alcohol taken into the body be stored for growth and tissue repair?

No. Excessive intake may eventually break down tissue.

37. Which does not contain a drug? 1) Aspirin? 2) Cigarettes? 3) Beer? 4) Coffee? 5) Ginger ale? 6) Coke and Pepsi?

Ginger ale. Colas contain caffeine.

38. Can one get as drunk on beer as on whiskey?

Yes. The alcohol content in 12 ounces of beer equals that in one and one-half ounces of whiskey. They "pack the same punch" per serving.

39. What percent of 80 proof whiskey is alcohol?

Forty percent. The percentage of alcohol in a beverage is one-half the proof.

40. Does a six-ounce glass of wine have more alcohol than a six-ounce glass of beer?

Yes. Wine contains 12-14 percent alcohol; beer 4-5 percent.

41. Do liquor ads get people to buy beverages without adequately warning of the possible effects?

Yes. Ads usually are directed to selling the product, not toward warning people of the possible negative consequences of its use.

42. If one drinks, what are three things that can be done to help prevent drunkenness?

Eat before or with drinking, drink slowly and "space" drinks, know the amount of alcohol in the drinks, set a limit, stop in time.

---

*See footnote on page 43.

43. Do liquor ads have much effect on teenagers?

Yes. Liquor ads make drinking look like a fun thing that is "with it." Teenagers are the major consumers of "pop" wines.

44. Do ads for alcoholic beverages show both good and bad aspects of drinking?

No. In order to sell alcoholic beverages, the possible good effects of drinking usually are highlighted.

45. Are advertisements of alcoholic beverages intended to appeal only to persons over 30?

No. They make efforts to appeal to the young and "push" for high sales to the "under 30" group.

46. Will a teenager with a blood-alcohol concentration a little below the legal limit for intoxication probably be able to drive safely, even in emergencies?

No. That much alcohol would affect reflexes and judgment, especially in emergencies.

47. Can a loss of judgment while driving occur before there are obvious signs of intoxication?

Yes.

48. Is it true that alcohol is involved in one out of every two traffic fatalities?

Yes. Approximately 50 percent of all traffic fatalities involve alcohol.

49. What is the official term for being drunk?

Intoxicated.

50. What are two occasions for drinking moderately that are usually quite acceptable socially?

With meals, sporting events, parties, entertaining guests, family celebrations, religious events.

51. Name three consequences that may follow drunken driving.

Injury, death, embarrassment, increased insurance rates, loss of license.

CUT LINE

FOLD LINE FOLD LINE FOLD LINE FOLD LINE

CUT LINE

-50-

1

2

64

65

AL CO HOL Scoreboard

Period	AL	CO	HOL
Celebrity Squares			
Total Ads			
Find the Word			
Question/Answer Contest			
Total Interviews			
Crossword Puzzle			
Total Paragraphs			
Total Resources			
Total Points			

Instructor's Copy

AL CO HOL Scoreboard

Period	AL	CO	HOL
Celebrity Squares			
Total Ads			
Find The Word			
Question/Answer Contest			
Total Interviews			
Crossword Puzzle			
Total Paragraphs			
Total Resources			
Total Points			

LESSON ONE

TAKE-HOME ASSIGNMENT

1. Cut out an ad for an alcoholic beverage. Attach it to a sheet of paper and write on it whether or not you think the ad will be successful in selling the beverage and why. Does the ad seem to be appealing to more than the reader's possible interest in the beverage?

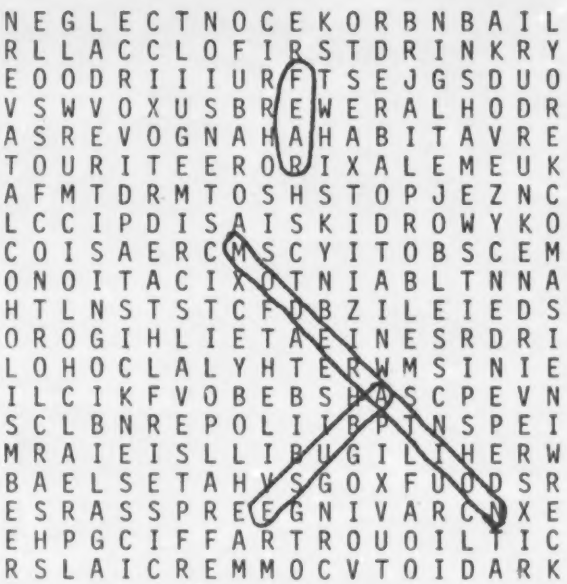
2. Try to complete *Find-the-Word* yourself or with help from your family. (The group whose members find the most words will receive five points on the AL-CO-HOL Scoreboard; three points will be awarded for second place and one point for third.)

   To be sure proper credit is given place the name of your group on each ad and *Find-the-Word* form you turn in.

Group_____ Name_____

FIND-THE-WORD

The words or phrases in the puzzle below are all descriptive of things or conditions related to the problems of alcohol. See how many you can find among the letters below. Words read forward, backward, up, down or diagonally. Draw a line around each word or phrase as you find it. Circle the number of the ones you find. (Example (23) fear) and add up the number of words you find.


N E G L E C T N O C E K O R B N B A I L
R L L A C C L O F I R S T D R I N K R Y
E O O D R I I I U R F T S E J G S D U O
V S W V O X U S B R E W E R A L H O D R
A S R E V O G N A H A H A B I T A V R E
T O U R I T E E R O R I X A L E M E U K
A F M T D R M T O S H S T O P J E Z N C
L C C I P D I S A I S K I D R O W Y K O
C O I S A E R C M S C Y I T O B S C E M
O N O I T A C I X O T N I A B L T N N A
H T L N S T S T C F D B Z I L E I E D S
O R O G I H L I E T A E I N E S R D R I
L O H O C L A L Y H T E R W M S I N I E
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S C L B N R E P O L I I B P T N S P E I
M R A I E I S L L I B U G I L I H E R W
B A E L S E T A H V S G O X F U O D S R
E S R A S S P R E E G N I V A R C N X E
E H P G C I F F A R T R O U O I L T I C
R S L A I C R E M M O C V T O I D A R K

1. abuse (sample)
2. addiction
3. advertising
4. alcoholism
5. ale
6. alibi
7. bail
8. bar
9. beer
10. bills
11. brewer
12. broke
13. cirrhosis of the liver
14. cocktails
15. crash
16. craving
17. crime
18. death
19. dependency
20. divorce
21. drunken drivers
22. ethyl alcohol
23. fear
24. first drink
25. gin
26. glow
27. guilt
28. habit
29. hangover
30. hate
31. intoxication
32. jail problems
33. jobless
34. liquor traffic
35. loss of control
36. martini
37. moderation (sample)
38. neglect
39. pawn
40. politics
41. radio-tv commercials
42. ruin
43. rum
44. shame
45. sickness
46. skid row
47. slave
48. slug
49. spree
50. spirits
51. tavern
52. tension
53. toxic
54. vodka
55. wine is a mocker
56. wreck
57. control
58. lie

Total words found_____

70

Instructor's Copy

FIND-THE-WORD

The words or phrases in the puzzle below are all descriptive of things or conditions related to the problems of alcohol. See how many you can find among the letters below. Words read forward, backward, up, down or diagonally. Draw a line around each word or phrase as you find it. Circle the number of the ones you find. (Example (23) fear) and add up the number of words you find.

	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t
1.	N	E	G	L	E	C	T	N	O	C	E	K	O	R	B	N	B	A	I	L
2.	R	L	L	A	C	C	L	O	F	I	R	S	T	D	R	I	N	K	R	Y
3.	E	O	O	D	R	I	I	I	U	R	F	T	S	E	J	G	S	D	U	O
4.	V	S	W	V	O	X	U	S	B	R	E	W	E	R	A	L	H	O	D	R
5.	A	S	R	E	V	O	G	N	A	H	A	H	A	B	I	T	A	V	R	E
6.	T	O	U	R	I	T	E	E	R	O	R	I	X	A	L	E	M	E	U	K
7.	A	F	M	T	D	R	M	T	O	S	H	S	T	O	P	J	E	Z	N	C
8.	L	C	C	I	P	D	I	S	A	I	S	K	I	D	R	O	W	Y	K	O
9.	C	O	I	S	A	E	R	C	M	S	C	Y	I	T	O	B	S	C	E	M
10.	O	N	O	I	T	A	C	I	X	O	T	N	I	A	B	L	T	N	N	A
11.	H	T	L	N	S	T	S	T	C	F	D	B	Z	I	L	E	I	E	D	S
12.	O	R	O	G	I	H	L	I	E	T	A	E	I	N	E	S	R	D	R	I
13.	L	O	H	O	C	L	A	L	Y	H	T	E	R	W	M	S	I	N	I	E
14.	I	L	C	I	K	F	V	O	B	E	B	S	H	A	S	C	P	E	V	N
15.	S	C	L	B	N	R	E	P	O	L	I	L	B	P	T	N	S	P	E	I
16.	M	R	A	I	E	I	S	L	L	I	B	U	G	I	L	I	H	E	R	W
17.	B	A	E	L	S	E	T	A	H	V	S	G	O	X	F	U	O	D	S	R
18.	E	S	R	A	S	S	P	R	E	E	G	N	I	V	A	R	C	N	X	E
19.	E	H	P	G	C	I	F	F	A	R	T	R	O	U	Q	I	L	T	I	C
20.	R	S	L	A	I	C	R	E	M	M	O	C	V	T	O	I	D	A	R	K

Note: Select words ahead of time to be discussed at beginning of Lesson Two.

1. abuse -n14
2. addiction -t10
3. advertising -d2
4. alcoholism -a7
5. ale -n6
6. alibi -d18
7. bail -q1
8. bar -i4
9. beer -a17
10. bills -k16
11. brewer-i4
12. broke -o1
13. cirrhosis of the liver -j1
14. cocktails -i11
15. crash -b15-
16. craving -q18
17. crime -g10
18. death -f8
19. dependency -r17
20. divorce -e7
21. drunken drivers -s4
22. ethyl alcohol -l13
23. fear -k3
24. first drink -i2
25. gin -p3
26. glow -c1
27. guilt -g5
28. habit -l5
29. hangover -j5
30. hate -i17
31. intoxication -m10
32. jail problems -o3
33. jobless -p7
34. liquor traffic -g19
35. loss of control -b2
36. martini -j20
37. moderation -i9
38. neglect -a1
39. pawn -n15
40. politics -h15
41. radio-tv commercials -s20
42. ruin -p18
43. rum -c5
44. shame -g3
45. sickness -e11
46. skid row -k8
47. slave -g11
48. slug -l14
49. spree -f18
50. spirits -q15
51. tavern -a6
52. tension -h7
53. toxic -k10
54. vodka -r5
55. wine is a mocker -t16
56. wreck -t16
57. control -b8
58. lie -g12

Note: In order to locate the word, note the letter and number following the word. Follow along the corresponding lines until they meet. Then proceed to find the word going in the direction of the arrow.

LESSON TWO

Alcohol and Behavior

General Objective I (Knowledge)

Students will understand the nature of beverage alcohol.

Specific Objective--They will be able to:

1. identify comparative amounts of alcohol in commonly used beverages.

General Objective III (Knowledge)

Students will understand the influence of alcohol on driving skills.

Specific Objectives--They will be able to:

7. describe the relationship between traffic accidents and alcohol consumption,
8. identify the reasons drinking poses particular risks for teenage drivers,
9. describe the relationship between drinking alcoholic beverages and blood alcohol content (BAC),
10. identify the BAC at which they could be arrested for drunken driving,
11. recognize how drinking adversely affects driving skills.

General Objective IV (Knowledge)

Students will recognize the influence of advertisements for alcoholic beverages on attitudes and behavior.

Specific Objectives--They will be able to:

12. identify the techniques used for advertising alcoholic beverages,
13. describe outcomes from the advertising of alcoholic beverages.

General Objective VI (Attitude)

Students will feel that there are outside pressures influencing their attitudes toward drinking.

Specific Objectives--Students will be able to judge that:

17. advertising generally encourages drinking.

Overview

Content

As pointed out in Lesson One, wine, beer, and whiskey are the most common types of alcoholic drinks. Wine contains about 12 percent alcohol by volume. Fortified wines such as sherry and port may go as high as 20 percent. The average drink of 12 percent wine is five ounces and therefore contains .60 ounces of alcohol (5 x .12 = .60). Beer contains 4-5 percent alcohol by volume. Twelve ounces (the usual can size) of 5 percent beer contains .60 ounces of alcohol (12 x .05 = .60). For whiskey (hard liquor), *proof* designates the alcohol content. *Proof* is always twice the percent of alcohol--that is, 80 *proof* whiskey contains 40 percent alcohol, or .60 ounces of alcohol per 1-1/2 ounces, the usual shot size (1.5 x .40 = .60). Thus, the amount of alcohol is the same in five ounces of wine, twelve ounces of beer or 1-1/2 ounces of whiskey (.60 ounces)--and so are the effects.

In Lesson One it was explained how alcohol reaches and leaves the blood. The percentage of alcohol *in* the blood is what determines how well a person can function, and this is called Blood Alcohol Content (BAC). A BAC of 0.10 percent (the level at which a person can be arrested for driving-while-intoxicated) means that the blood contains one tenth of one percent of alcohol (or about one drop of alcohol in every 1000 drops of blood, or 15 drops of alcohol in a quart of blood). BAC is usually measured by a chemical test of breath with an instrument called The Breathalyzer. This test is so accurate that results are accepted in courts as legal evidence.

Changes in mood and behavior appear at a BAC of 0.05 percent. Judgment, thought and restraint also are usually affected at this level. At a BAC of 0.10 percent (five average drinks in an hour) voluntary motor actions--walking, hand movements, speech--may become clumsy. Blurring and split vision also may occur at this level. So also might tunnel vision where, on the highway for example, a driver sees only what is directly ahead, not those dangers that may be to the side. At a BAC of 0.20 percent the brain is greatly impaired and behavior is obviously affected. The person may want to lie down, or become loud, or be easily angered, or cry. At 0.30 percent, the brain's response to stimuli is appreciably dulled, and so is the understanding of what is seen and heard. At 0.40 percent to 0.50 percent (20 average drinks) one usually is rendered unconscious--breathing and heartbeat are considerably depressed, sometimes resulting in death.

On beginning to drink, a person might experience a sense of well-being as inhibitions are reduced and tensions eased. However, pleasure may turn to danger as consumption is increased, and a good illustration of the results of this switch is in traffic accidents. Alcohol is related to one-half of the annual 50,000 traffic fatalities and to approximately twenty percent of the two million injuries--involving drivers, passengers, pedestrians, bicyclists, mini-bike riders and others.

In alcohol-related accidents, the drunken driver is the main culprit. Alcohol affects three areas of human performance essential for safe handling of an automobile: *sensing* (primarily seeing), *deciding* what to do, and *acting*. The drinking driver's capacity for *deciding* wisely deteriorates early, and he will probably take more chances than he

should in passing, speeding or turning. This is a particularly important point for teenage drivers, for they are more likely than experienced drivers to take such risks. Combined with increased risk-taking is the driver's decreasing ability for *acting* quickly. As increasing amounts of alcohol reach the brain, the muscles take longer to obey messages sent by the brain. The alcohol in two 12-ounce cans of beer consumed in less than an hour can slow a driver's reaction by 2/5's of a second--allowing an automobile traveling at 55 miles per hour to travel an additional 34 feet--possibly the difference between a near miss and a crash. *Sensing*, which is primarily seeing, is also adversely affected. As said earlier, alcohol leads to blurred and split vision as well as to a more limited ability to see to the sides. Thus alcohol is detrimental to all three skills needed for safe driving--*sensing, deciding, acting.*

Deterioration of driving skill occurs at a fairly low BAC, and danger accelerates with increasing alcohol consumption. For drivers, a BAC of 0.04 percent is associated with an increased responsibility for traffic accidents. At 0.06 percent the probability of causing an accident is doubled, and at 0.10 percent the probability is six to seven times greater than when sober. At 0.15 percent the probability increases to 25 times, and at 0.18 percent the driver is 60 times more likely to be responsible for a fatal traffic accident than when sober.

However, BAC does not tell the whole story of one's ability to drive a car safely, and alcohol poses some special risks for young drivers, who, even without alcohol, are already a high-risk group--they make up about 20 percent of the driving population and are involved in approximately 35 percent of the traffic accidents and fatalities. Teenagers are affected

faster than adults by similar amounts of alcohol because they generally weigh less and have less body fluid to dilute the alcohol they drink. A person weighing 160 pounds has about 110 pounds of water in his/her body to dilute alcohol. After three drinks in an hour, his/her BAC would be about 0.07 percent. If an individual weighing 100 pounds drank the same amount in the same time, his/her BAC would be about 0.11 percent, and he/she would be eligible for arrest as a drunken driver.

Teenagers also seem more prone than older drivers to "psychological intoxication" because of their inexperience with alcohol and its effects. Further, their driving performance worsens more rapidly than adults' because driving is a newer and less routine skill for them than for more experienced drivers. In short, most teenagers are both inexperienced drivers and inexperienced drinkers, and even more inexperienced at combining drinking and driving. Youth who get into crashes have relatively low BAC's--drinking that would not have ended in a crash if the driver had been more experienced in either drinking or driving or both.

Among the pressures that encourage young people to drink without adequate warning of the hazards is advertising. Teenagers (and the rest of us) are bombarded with wine and beer ads on TV and with liquor ads in magazines and newspapers. Drinking is the "in" thing. It is the way to "belong". If they are to believe the ads, attractive young people have fun together because they drink the "right" alcoholic beverage.

Obviously, advertising is intended to sell products. Liquor ads encourage drinking by emphasizing the fun side of it and by creating acceptance through identification with role models who are clearly

enjoying themselves. That ads may be influential is suggested in recent surveys, which reveal that approximately 90 percent of twelfth grade students drink, a ten-fold increase in the sale of "pop" wines to youthful drinkers within a four-year period. The ads seldom show the negative side. They are another force encouraging teenagers to drink without a balanced understanding of the pros and cons. It is during this lesson that the techniques used in advertising and the direction of their influence should be explored with the students.

Techniques

At the beginning of the lesson, the instructor asks students to turn in their *Find-the-Word* sheets with the name of the group to which they belong clearly written at the top, so that points may be properly recorded on the AL-CO-HOL Scoreboard. On his own *Find-the-Word* sheet, the instructor has underlined the words to be emphasized in a class discussion which will follow collection. This discussion should also include words found by the students. The ads for alcoholic beverages, with an analysis of their probable success, are also collected and discussed. After this discussion, the instructor shows a picture of an alcohol-related automobile accident (page 69) which serves as a lead-in to a *Question/ Answer Contest*. Seven pieces of paper and a magic marker are distributed to each group, and the members are asked to sit close together.

The instructor then asks seven questions about alcohol-related traffic accidents. After each question, the respective members of AL, CO, and HOL groups will confer to pick the best answer and then write

it in bold print on one of the sheets of paper. At the instructor's signal all three groups will simultaneously hold up their answers, and the group which comes closest to being correct will receive a point on the AL-CO-HOL Scoreboard. This procedure continues until all seven questions have been asked.

The next activity is the *Mini-Lecture*. The instructor should briefly describe BAC, how it is tested, the amount used to define drunken driving (most usually 0.10 percent), and how impairment of driving ability can occur at a much lower level (0.04 - 0.05 percent). He should indicate that each drink in the usual size serving adds about 0.02 percent to BAC, and discuss the rate of oxidation of alcohol (about a drink a hour) and its influence on BAC. The instructor should then display and briefly discuss the poster *They All Pack the Same Punch Per Drink* (page 70) showing that beer, wine, and whiskey, in usual servings, contain the same amount of alcohol and therefore produce the same effect.

Celebrity Squares should then be resumed until three rounds (counting those of Lesson One) have been completed.

Materials Needed (See Instructional Aids--Lesson Two, pages 69-73.)

Find-the-Word sheet, page 55 (with selected words underlined for class discussion).

Picture of an alcohol-related traffic accident, taken from a recent local newspaper, similar to the sample on page 69 (to be discussed with students).

Package of 8-1/2 x 11 paper and 3 magic markers (for the *Question/Answer Contest*).

Poster showing Wine=Beer=Whiskey in usual servings, page 70 (to be shown to students).

Take-home assignment for Lesson Three, including *Crossword Puzzle* forms, pages 71-72 (to be distributed to students).

INSTRUCTION

Activity	Description	Minutes	Total Minutes Elapsed
Collection of Take-Home Assignments	Have the members of each group--AL, CO, and HOL--submit their *Find-the-Word* sheets to see which group found the most words. As described on page 32, the winning group receives five points, the runner-up three, and the remaining group one. Points are to be posted by the next lesson on the AL-CO-HOL Scoreboard. (Note the scoring below in case of a tie):	5	5

Place	Points	Place	Points	Place	Points
1) tie	4	1	5	1)	3
2)	4	2) tie	2	2) tie	3
3	1	3)	2	3)	3
	9		9		9

Some of the words found on the *Find-the-Word* sheets are then discussed, after which the instructor collects from each student the advertisements for alcoholic beverages with analysis of probable success.

Alcohol Ads	The instructor holds up the advertisements and asks the students what the ad is using to "put it across" to those who see it. Examples of likely answers are: *youth, wealth, adventure, having a good time, "you're special," being masculine, adult status, sophistication, being a fun person, being popular, and so forth.*	5	10

The ads should be followed by a picture of an alcohol-related traffic accident taken from a current local newspaper, with the instructor commenting that this is something not seen in the ads, although it may have to do with drinking.

Activity	Description	Minutes	Total Minutes Elapsed
Alcohol Ads (cont'd.)	Class members should be encouraged to state and briefly discuss some of the possible causes of the accident, and these may include *speeding, "showing off," drinking, and so forth.*		
Question/ Answer Contest	This contest allows students to find out how much they know about the significance of alcohol-related traffic injuries and deaths. The instructor gives seven sheets of paper and a magic marker to each group--AL, CO, and HOL--along with the following directions. "Members of each group may discuss among themselves the possible answers to each of the questions I am going to read. Each group should choose the best answer and write it in big print on <u>one</u> of the pieces of paper I have distributed. At my signal each group will hold up its answer, and the group coming closest to the correct answer will receive one point on the AL-CO-HOL Scoreboard." After revealing the correct answer to each question and scoring the winner, the instructor might wish to comment briefly on the answers. The seven questions follow with their respective answers: 1. About how many people are injured in traffic accidents each <u>day</u> in the United States? *Approximately 5500.* 2. How many people are killed in traffic accidents each day in the United States? *About 135.*	10	20

Activity	Description	Minutes	Total Minutes Elapsed
Question/ Answer Contest (cont'd.)	3. What percentage of traffic deaths involve alcohol? *About fifty percent.* 4. Twenty percent of all drivers are under 25 years of age. In what percentage of all traffic deaths are these young people involved? *About thirty-five percent.* 5. What kind of test is used to find out if alcohol was involved in an accident? *Breath test (Breathalyzer) or blood test.* 6. What does the test measure? *BAC* 7. What does DWI stand for? *Driving While Intoxicated.*		
Mini-Lecture	Following comments on the answers to the seven questions the instructor gives a short lecture conveying the following information. (This represents only an outline of highlights; for more details refer to pages 57-60 and 74-75): 1. BAC -- what it is and how it is measured. 2. One drink = increase of 0.02% in BAC. 3. BAC=0.04-0.05% = dangerous driving. BAC=0.10% = legally defined point for DWI in most states. BAC=0.15% = 25 times greater chance of causing a traffic accident. 4. BAC=0.05% = 2 to 3 drinks in an hour; BAC=0.10% = 5 drinks in an hour. 5. Oxidation rate = one drink per hour. 6. *Proof* = twice the percentage of alcohol in a beverage. Example: 80 *proof* = 40% alcohol	10	30

Activity	Description	Minutes	Total Minutes Elapsed

7.

	Usual serving in ounces		Percentage of Alcohol		Ounces of Alcohol
Whiskey	1½	X	40	=	.60
Wine	5	X	12	=	.60
Beer	12	X	5	=	.60

Therefore beer, wine and whiskey in usual servings contain the same amount of alcohol and provide the same effect. Refer to Poster, *They All Pack the Same Punch Per Drink* (page 70).

Celebrity Squares — Resume *Celebrity Squares* until three rounds (counting those of Lesson One) have been completed. — 10 — 40

Take-Home Assignment — The instructor distributes and explains the take-home assignment for Lesson Three. — 5 — 45

1. Interview one teenager and one adult to determine the reasons each does or does not drink and on what occasions he/she feels drinking is acceptable. Prepare a written list of the responses.
2. Try to complete the *Crossword Puzzle* by yourself or with help from your family. (The group with the largest number of members turning in completed puzzles will score five points on the AL-CO-HOL Scoreboard; three points for second place and one for third. To be sure proper credit is given, write the name of your group on the *Crossword Puzzle* when you turn it in.)

   Note: Two forms of the *Crossword Puzzle* appear on pages 72-73. One is a sample to be used by the instructor (page 73) and the other to be distributed to the students (page 72).

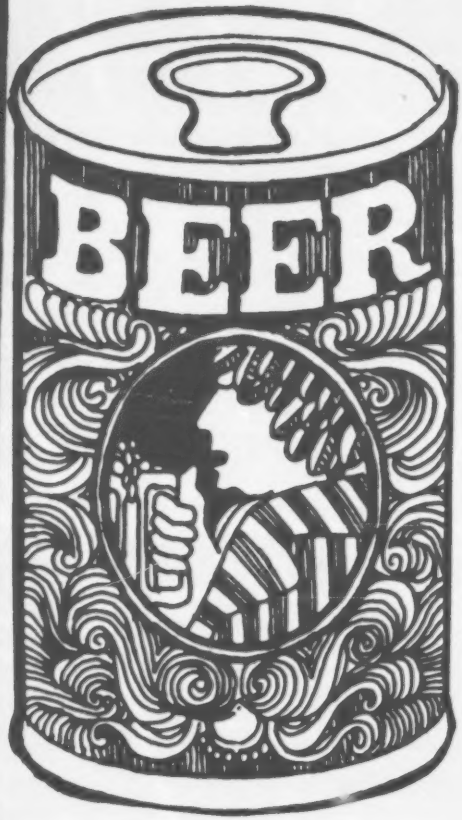
Activity	Description	Minutes	Total Minutes Elapsed

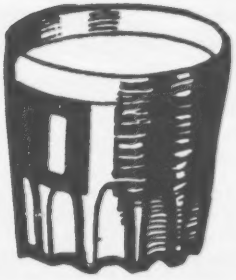
Scoring procedures for these assignments are as follows:

1. Interviews -- Total the number submitted by the members of each group, and award five points for the highest, three for second, and one point for third.

2. *Crossword Puzzle* -- Count only the completed puzzles turned in by members of each group and give for first, second and third five points, three and one respectively.

They all pack the same punch per drink.





Beer = Wine = Whiskey

LESSON TWO

TAKE-HOME ASSIGNMENT

1. Interview one teenager and one adult to determine the reasons each does or does not drink and on what occasions he/she feels drinking is acceptable. Prepare a written list of the responses.

2. Try to complete the *Crossword Puzzle* by yourself or with help from your family. (The group with the largest number of members turning in completed puzzles will score five points on the AL-CO-HOL Scoreboard; three points for second place and one for third. To be sure proper credit is given, write the name of your group on the *Crossword Puzzle* when you turn it in.)

Group_____ Student_____

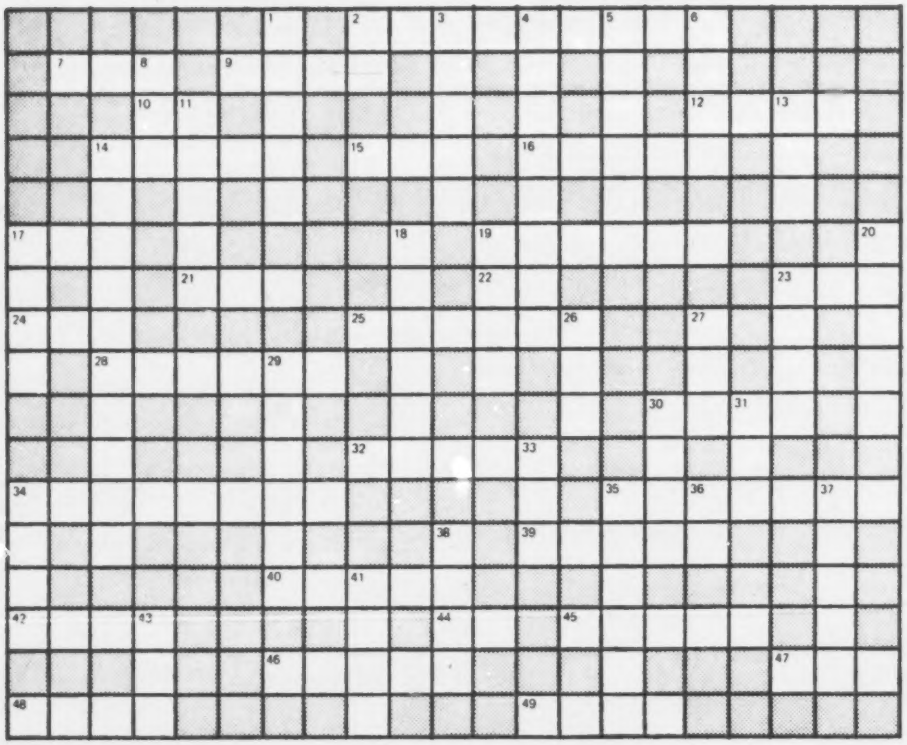
CROSSWORD PUZZLE CLUES

Across

2. one who cannot control his drinking
7. a diet drink
9. soft drink (mixer)
10. man's name (abbreviated)
12. insurance company hikes it after an accident
14. beverage
15. they collect taxes
16. condition of one who has overindulged in alcohol
17. taste of a drink
19. freighten
21. "_ _ _ and Coke"
22. open your mouth and say "_ _"
23. automobile
24. "rocks"
25. even black, it won't sober you up
28. a type of drink or plaid
30. container for liquor
32. organ immediately affected by drinking
34. rotten feeling the "morning after"
35. zig-zag type of walk (when drunk)
39. what drinks are served in
40. not drunk
42. S.O.S.
44. pronoun
45. slang for liquor
46. extremely high (like a hill)
47. type of beer
48. glass to measure liquor
49. made from grapes

Down

1. clear, odorless liquor
2. organization to help alcoholics
3. auto wreck
4. part of a hangover
5. an alcoholic beverage
6. wine stopper
8. where people drink
11. cirrhosis affects this organ
13. attempt
14. alcohol is this type of drug (opposite to stimulant)
17. what a car does on ice
18. doesn't really help sober you
19. valuables are kept inside one
20. what you shouldn't do when you've been drinking
23. a small wagon
26. an _ _ _ of corn
27. a pair
29. a drinking toast
30. _ _ _ and pieces
31. running game for children
33. pester
34. not quite drunk
35. cowboys drank there
36. preposition
37. type of alcohol liquor is made from
38. what you take when in a car or "on drugs"
41. alcoholic drink that foams on top
43. you may get "high" on this, too but you don't drink it



Instructor's Copy

CROSSWORD PUZZLE CLUES

Across

2. one who cannot control his drinking
7. a diet drink
9. soft drink (mixer)
10. man's name (abbreviated)
12. insurance company hikes it after an accident
14. beverage
15. they collect taxes
16. condition of one who has overindulged in alcohol
17. taste of a drink
19. freighten
21. "_ _ _ and Coke"
22. open your mouth and say "_ _"
23. automobile
24. "rocks"
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40. not drunk
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3. auto wreck
4. part of a hangover
5. an alcoholic beverage
6. wine stopper
8. where people drink
11. cirrhosis affects this organ
13. attempt
14. alcohol is this type of drug (opposite to stimulant)
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30. _ _ _ and pieces
31. running game for children
33. pester
34. not quite drunk
35. cowboys drank there
36. preposition
37. type of alcohol liquor is made from
38. what you take when in a car or "on drugs"
41. alcoholic drink that foams on top
43. you may get "high" on this, too but you don't drink it

						1 V		2 A	L	3 C	O	4 H	O	5 L	I	6 C				
	7 T	A	8 B		9 S	O	D	A		R		E		I		O				
			10 A	11 L		D				A		A		Q		12 R	A	13 T	E	
		14 D	R	I	N	K		15 I	R	S		16 D	R	U	N	K		R		
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G						40 S	O	41 B	E	R				L					H	
42 H	E	L	43 P					E		44 I	T		45 B	O	O	Z	E		Y	
			O			48 S	T	E	E	P				O				47 A	L	E
48 S	H	O	T					R				49 W	I	N	E					

LESSON THREE

Drinking: Reasons and Decisions

General Objective I (Knowledge)

Students will understand the nature of beverage alcohol.

Specific Objective--They will be able to:

4. explain that the oxidation rate of alcohol is controlled by time alone.

General Objective VII (Attitude)

Students will feel that drinking may be desirable or undesirable.

Specific Objectives--They will be able to judge the desirability of drinking when done:

19. to escape reality,

20. to emulate adults,

21. to reduce emotional stress,

22. in moderation at festive and ceremonial occasions,

23. before driving.

General Objective VIII (Attitude)

Students will feel that it is valuable to explore opinions regarding alcohol.

Specific Objective--They will judge that it is worthwhile to assess:

24. personal drinking behaviors.

Overview

Content

Man has always tried to find ways to speed up the oxidation rate or "sobering up". While each person "burns up" alcohol at his own rate,

it takes most people about an hour to oxidize the alcohol in an average serving of beer, wine or whiskey. Oxidation (about 90 percent) occurs in the liver. Some alcohol (2-10 percent) will escape unused through breath and urine. For a long time man has tried many methods to speed up this oxidation process--exercise, cold showers, coffee, food, fresh air. While perhaps making the drinker feel more awake, they do not hasten his sobriety. Time and time alone is the only thing that works.

Most adolescent attitudes toward alcohol reflect the cultural traditions and interpretations of parents and peers. If both parents drink, the probability of the adolescent drinking is high, but decreases if only one parent drinks. Parents usually give teenagers their first drink. If the teenager is heavily exposed to the wrong reasons for drinking--escaping reality, emulating adults or friends, releasing inhibitions, venting anger--he/she will generally incorporate these reasons into personal drinking patterns, and may continue them as an adult.

Peer group pressures also seem to contribute to teenage drinking and driving and therefore to the disproportionately large number of accidents which follow the combination. Destructive behavior such as the unfortunate "game" called "chicken" (or attempting to force another driver from a collision path deliberately created) seems a favorite pastime for some young drivers, particularly when they have been drinking. Analysis of fatal accidents also shows that when they happen to teenagers, more passengers are involved, and that in fact such fatal accidents are more likely to occur when the passengers are of the same sex as the driver.

While these content overviews have thus far concentrated on the driver who drinks, the effects of alcohol can be observed on many persons in many settings. As alcohol initially releases inhibitions and restrictive social pressures, we may talk more actively and openly. But the increase in the flow of ideas eventually is matched by a decrease in organization and integration of what we are saying. In conversation and other activities, we frequently think we are coming across better than we are. As we drink more, coordination is lessened and reflexes slowed. Most of us have seen the intoxicated person trying to find the lock with the key or the slow response to the heat of the match allowed to burn too long after lighting a cigarette. Eventually, as BAC rises, even well-learned, every-day activities such as putting on a jacket, using the telephone, typing, writing, or walking become increasingly difficult.

Some of the dangers and negative effects of alcohol being established, it is a good time for the instructor to set forth some of the reasons for drinking, particularly among teenagers. Distinctions should be made between normal, responsible, acceptable, mature reasons vs. abnormal, destructive, unacceptable, immature reasons. The former might include learning adult roles, natural curiosity, relaxing in a social situation, as part of family activities, in moderation at festive and ceremonial occasions, and so forth. The latter might include response to peer pressure, escaping reality, emulating negative adult models as opposed to being "one's own person," reducing emotional stress, building courage, counter-balancing poor self-confidence, trying to grow up in a hurry, to irritate parents, and so forth.

Of all the pressures that lead to drinking, those applied by peers and by advertising seem to be among the most influential. The decision to drink or not to drink should be a matter of individual choice. If a person chooses, for whatever reason, not to drink, his decision should be respected and he should not be made fun of or pressured into drinking by others. Conversely, if a person decides to drink, he must assume the responsibility to do so in a mature, socially accepted manner that will not cause harm to himself or others.

Techniques

The lesson begins with the collection of the *Crossword Puzzle* and a discussion of some of the words therein. The instructor asks each student to turn in a *Crossword Puzzle* identified by AL, CO, or HOL so that points may be credited accurately on the AL-CO-HOL Scoreboard.

Scores have been posted for the previous take-home assignment *Find-the-Word* and ads for alcoholic beverages.

A short summary of the Mini-Lecture from the previous lesson is then given, emphasizing BAC and oxidation.

The next activity is the *Mix and Match* exercise. The instructor describes a situation involving four people who, after eating, were drinking various alcoholic beverages in different quantities. The class as a whole is asked to match the amount of time needed to oxidize the alcohol and reach a BAC of 0.0 percent to the appropriate person.

Risks and Rewards follows. This is a value clarification and decision-facilitating technique using information gained to date.

It includes material from the take-home assignment surveying the reasons people drink or do not drink, and of the occasions on which they find drinking acceptable. Each student is given a *Risks and Rewards* form (page 84) and asked to list all the risks and rewards of drinking. Students are then asked to "brainstorm" the reasons for their choice. A composite class list of the reasons is then discussed.

A brief explanation of the decision-making process should follow with special application to decisions about drinking and driving.

Materials Needed (See Instructional Aids -- Lesson Three, pages 83-85.)

Crossword Puzzle, page 73 (with selected words underlined for class discussion).

Mix and Match -- names, number of drinks, and clocks, page 83 (to be used in the conduct of this activity).

Risks and Rewards sheet, page 84 (to be given to students).

Take-home assignment for Lesson Four, including questions and statements for paragraph writing, page 85 (to be distributed to students).

INSTRUCTION

Activity	Description	Minutes	Total Minutes Elapsed
Collection of Take-Home Assignments	Have each student submit a *Crossword Puzzle* and interview report identified by AL, CO or HOL for proper credit. Points should be posted by the next lesson.	5	5
Crossword Puzzle	Discuss some of the words in the *Crossword Puzzle*. The instructor then announces the points scored for *Find-the-Word*, and ads for alcoholic beverages, and shows them posted on the Scoreboard.	5	10
Mini-Lecture Review	A brief review of the Mini-Lecture from the previous lesson is given, emphasizing BAC and oxidation.	5	15
Mix and Match	The instructor then says: "As we become more aware of alcohol and its effects on the body and driving skills, we realize that BAC is an important measure for someone who has been drinking. Let's see if we can determine BAC's in the following situation. "You had lunch with Sue, Rick, Stan and Gail at 11 a.m. After you left at noon,they went out drinking and drank the amounts listed under their names on the chart I am pointing out to you. During the afternoon you met them separately at the times shown on the clocks on my desk. If you used a Breathalyzer on your friends, two of them would show a BAC of zero percent, while the other two would have higher BAC's. Match the clocks with the names to determine which two friends had a BAC of zero, and at what time. What is the earliest you could have met them?"	5	20

Activity	Description	Minutes	Total Minutes Elapsed
	Sue at one o'clock and Stan at four. Other examples could be given to reinforce the concept of oxidation rate.		
Risks and Rewards	The instructor then states: "Part of your take-home assignment was to ask people why they do or do not drink, and on what (if any) occasions they consider drinking appropriate. Using the answers along with all the other things we have learned about alcohol, I'd like you to take this *Risks and Rewards* form and to list in the appropriate column all the risks and rewards *you feel* are connected with a decision to drink. This is a private matter so please keep your lists and choices to yourself." (Allow a reasonable amount of time to complete the exercise.)	10	30
Brain-Storming	In order to generate as many reasons as possible from a maximum number of students in a minimum amount of time, the instructor asks them to call out (one at a time) some of the risks and rewards they listed (to be written on the chalkboard by the instructor). No judgments are made about the risks and rewards contributed, and as many as possible are recorded. These are then discussed in terms of how they might be used to reach a tentative personal decision about whether to drink or not, in general and for special occasions. The instructor then summarizes: "As you can see, many factors must be considered in making a decision to drink or not to drink. That decision can be influenced by advertising, family and friends, but the ultimate decision will be yours."	5	35

Activity	Description	Minutes	Total Minutes Elapsed
Discussion of Decision-Making Process	A brief discussion of the decision-making process then follows.	5	40
Take-Home Assignments	The instructor distributes and explains the take-home assignments for Lesson Four.	5	45

1. Select <u>one</u> of the following questions (a, b, c, d, or e) and respond in writing as honestly as possible in about 50 words (or one big paragraph).
   a. Do you think drinking is a problem for teenagers? Why or why not?
   b. Describe what you think of a teenage girl or boy who gets drunk. How do you think his or her getting drunk affects other boys and girls?
   c. "Persons who are inexperienced drivers as well as inexperienced drinkers are especially dangerous." Why?
   d. You are the only non-drinker at a party and everyone urges you to have a drink. What would you say and/or do?
   e. Your friend, who's to drive you home, acts as if he/she's had too much to drink. What would you say and/or do?
2. Make a list of places at which a person could get help for problem drinking. Whom might you ask to get this information? (Suggestions--ask parents, teachers, clergy; also check telephone directory, newspapers, radio and T.V. stations.

Activity	Description	Minutes	Total Minutes Elapsed

Please indicate your group on the papers you turn in--written paragraph and list of resources. These will be read carefully and points assigned in terms of the quality of the effort.

Note: Suggested scoring procedures for these assignments are as follows:

1. Paragraphs--total the number of paragraphs turned in by members of each group. Give five points for the highest total, three points for second and one for third. The instructor may wish to assign additional points for quality of effort.
2. Resources--total the number of resources identified by the members of each group and award five points for the highest total, three points for second and one for third.

Sue	Rick	Gail	Stan
1	6	5	4
Wine	Beer	Whiskey	Beer

4PM	3PM	1PM	2PM

1-2

1-3

DRINKING

RISKS

REWARDS

LESSON THREE

TAKE-HOME ASSIGNMENT

1. Select <u>one</u> of the following questions (a, b, c, d, or e) and respond in writing as honestly as possible in about 50 words (or one big paragraph).
   a. Do you think drinking is a problem for teenagers? Why or why not?
   b. Describe what you think of a teenage girl or boy who gets drunk. How do you think his or her getting drunk affects other boys and girls?
   c. "Persons who are inexperienced drivers as well as inexperienced drinkers are especially dangerous." Why?
   d. You are the only non-drinker at a party and everyone urges you to have a drink. What would you say and/or do?
   e. Your friend, who's to drive you home, acts as if he/she's had too much to drink. What would you say and/or do?
2. Make a list of places at which a person could get help for problem drinking. Whom might you ask to get this information? (Suggestions--ask parents, teachers, clergy; also check telephone directory, newspapers, radio and T.V. stations.) Please indicate your group on the papers you turn in--written paragraph and list of resources. These will be read carefully and points assigned in terms of the quality of the effort.

LESSON FOUR

Drinking and Driving Behavior

General Objective V (Knowledge)

Students will understand symptoms, problems and interventions related to alcohol abuse.

Specific Objectives--They will be able to:

14. identify signs and symptoms of problem drinking*,

15. define alcoholism* as an illness,

16. name resources available for help with drinking problems.

General Objective VI (Attitude)

Students will feel that there are outside pressures influencing their attitudes toward drinking.

Specific Objective--They will be able to judge that:

18. peers influence drinking behavior.

General Objective VIII (Attitude)

Students will feel that it is valuable to explore opinions regarding alcohol.

Specific Objectives--They will judge that it is worthwhile to assess:

24. personal drinking behaviors,

25. ways to prevent driving-while-intoxicated.

General Objective X (Behavior)

Students will state their intentions to act in a responsible manner in relation to the use and abuse of alcohol by themselves and others.

---

* Problem drinking and alcoholism are sometimes used interchangeably in the Module.

Specific Objectives--They would by willing to:

28. refrain from riding with drivers whose ability has been impaired by alcohol,

29. attempt to prevent others from riding as passengers with a driver impaired by alcohol.

Overview

Content

We drink at many places on many occasions, some of which involve meals or other activities in family settings. Most young people have had their first drink by age thirteen; usually it was given to them by their parents. But it is not essential (or even desirable) to drink. Any individual who decides not to drink, for any reason, should not be made fun of or "pressured" to drink by anybody. Conversely, a person deciding to drink must assume the responsibility to do so in a mature, socially accepted manner that will not cause harm to himself/herself or others.

In the United States there are about 210 million people, the majority of whom drink occasionally. Many drink regularly, but moderately. And for most, responsible drinking with family and friends can be enjoyable. But about 10 percent of the drinkers are problem drinkers--those who cannot control their drinking once they start. On the contrary, they are controlled by the alcohol. Over time this condition leads to alcoholism, one of the most serious illnesses in the United States today. It is described as "repeated drinking of alcoholic beverages in excess of dietary and social uses of the community and to an extent that interferes with the drinker's health or his social and economic functioning."

Although the specific causes of alcoholism are unknown, they seem to be complex, with physical, emotional and social roots. We do know that drinking to reduce emotional tensions caused by personal problems (such as low self-esteem or loneliness) can contribute to alcoholism. Some symptoms of alcoholism are "blackouts" (or inability to recall what one said or did after drinking), "sneaking" or "gulping" drinks, and needing to drink to prepare oneself for social encounters.

In most cases, alcoholics need help in dealing with the disease, and there are many agencies available for assistance. Most prominent among these are: Alcoholics Anonymous (AA) which works with the alcoholic himself/herself; Al-Anon, primarily for the spouses of alcoholics; and Alateen for children involved. Community mental health agencies also provide important services for alcoholics and their families. Clergy, guidance counselors, physicians, social workers, psychologists and others may also be of help.

Techniques

The lesson begins with the collection of the take-home assignments and scores are reported for the *Crossword Puzzle* and interviews.

Most of the remainder of Lesson Four is devoted to *Simulations*--which can be presented in a variety of ways. Depending on the equipment available, trigger films, video tapes, etc. can be used. However, role-playing the simulated situations with volunteers from the class and active participation by the instructor are requisites, no matter what other aids are employed.

After each simulated situation is presented, students are asked to respond with practical and honest suggestions for resolving it satisfactorily. These resolutions hopefully will be based on the information gained from the previous lessons and take-home assignments. It should be emphasized beforehand that responses should not be "made fun of," for the idea is to get everyone involved in a solution, and alternatives should be carefully considered no matter how "far out" they might seem.

If time allows, the instructor should have the students break into groups of four to six to discuss the interviews they conducted as a take-home assignment for Lesson Two.

Other alternatives would be to complete any rounds of *Celebrity Squares* that were not finished in previous classes, or to repeat the *Question/Answer Contest* (with different questions).

Materials Needed (See Instructional Aids - Lesson Four, pages 93-98.)

Situations for *Simulations*, pages 93-97.

"Props" such as drinking glasses, empty beer cans and wine bottles, paper sacks, etc.

INSTRUCTION

Activity	Description	Minutes	Total Minutes Elapsed
Collection of Take-Home Assignments	The instructor should begin by collecting the paragraph and resource assignments. Scores are announced for the *Crossword Puzzle* and Interviews, and are posted on the AL-CO-HOL Scoreboard.	5	5
Simulations	*Simulations* are intended to get students to interact with each other in alcohol-related situations likely for them. Through role-playing, trigger films, or video tapes, or by reading brief open-ended stories, the instructor should have students address the problems, ramifications and solutions openly among themselves. Suggestions for open-ended simulations are found on pages 93-97. The instructor should feel free to alter the content, structure, names, places, language, etc., as appropriate for local circumstances. To gain maximum student participation, role-playing is recommended as the simulation technique. If approached in a positive, non-threatening way, accompanied by the instructor's participation, role-playing usually gains greater and faster acceptance. The instructor should reassure the class that each role-play will last no more than five minutes. Volunteers are given roles in each simulation and told briefly about the setting. Preferably, the instructor will participate in the adult role of at least the first simulation.	25	30

Activity	Description	Minutes	Total Minutes Elapsed

After the simulation is presented, the instructor opens discussion to the class. The process questions listed after each simulation should help guide the follow-up discussion. Flexibility is necessary and the flow of the questions should depend on student responses.

No responses should be "put down" or ridiculed, but rather explored by the class in terms of eventual consequences. It is probable that "teachable moments" will arise throughout the discussion, but one should refrain from "preaching" or setting too much of a direction toward solution. The *Risks and Rewards* technique could be used by the instructor to explore the feasibility of certain decisions.

For the conduct of role-playing simulations the following "do's" and "don'ts" are offered.

Avoid:

1) comments on students' acting ability;
2) identifying real-life people;
3) "preaching" (only one right answer);
4) ridiculing alternative suggestions;
5) allowing the role play to go beyond 5 minutes.

Activity	Description	Minutes	Total Minutes Elapsed
	Emphasize: 1) alternative approaches; 2) exploring the consequences of a decision; *(Risks and Rewards)*; 3) correct information; 4) flexibility in the flow of the process questions.		
Group Discussion of Interview Results	Return the interview assignments to students, and divide them into groups of four to six to discuss the results. The following questions could be explored: 1. What were the drinking occasions that most adults considered OK? 2. Were those different from what the teenagers' considered OK? How? 3. Did adults and teenagers give different reasons for drinking? 4. With which responses of adults and teenagers do you agree or disagree? Why?	10	40
Celebrity Squares or *Question/ Answer Contest*	If time is left, the instructor could complete unfinished rounds of *Celebrity Squares* or repeat the *Question/Answer Contest* (with different questions).		
Take-Home Assignment	The instructor distributes and explains the take-home assignment for Lesson Five. 1. Describe in one paragraph a drinking and/or drinking and driving situation in which you might get involved. Bring the paragraph to class for use in the next lesson.	5	45

SUGGESTIONS FOR OPEN-ENDED SIMULATIONS

Simulation A: An Alcoholic Parent

Cast: Mary, Bob and one or two friends
Carol (the daughter)
Mr. or Mrs. Smith, the alcoholic parent (played by the instructor)

Setting: Carol's home

Situation: One (or two) friends go to call for Carol. The door is opened by Mrs. Smith, Carol's mother, who looks very sloppy and appears drunk. She begins to holler at Carol, that Carol cannot go out since she has to clean the house and prepare supper. As Carol begins to speak to her friend(s), Mrs. Smith pushes her away and tells the friends to get out. As (they) are leaving, Carol comes running out of the house crying and tells them she wants to run away from home because her mother drinks too much.

Possible Process Questions:

1. What would you do or say if you were Carol's friend?

   Your mother is ill and you both need help.

2. Apparently Mrs. Smith has a drinking problem. To whom might Carol turn for help?

   Her father, a relative, a teacher, Alateen.

3. If Mrs. Smith were willing, where might she go for help?

   Alcoholics Anonymous (AA), Mental Health Clinic, Physician, Clergy, and so forth.

4. If Carol ran away, what would be the Risks and Rewards?

   Make a list on the chalkboard according to students' responses.

Situation B: Drinking Alcohol at a Home Party

Cast: About six junior high school students
A parent who lives at the party site

Setting: The basement of one student's home.

Situation: You are having a party at your house and one of your friends brings in a large bag containing cans of beer or bottles of wine. He/she tries to get all of you to join him/her in "having a few", and succeeds with some of your guests. After an hour one of your parents comes down and sees what's going on.

Possible Process Questions:

1. What would you have done if it were your party? Why?

   Told the friend with the alcohol to leave.

   Joined in the drinking.

   Let each guest make his own decision.

2. If you were the parent, what would you have done?

   Sent everyone home.

   Driven everyone home.

   Told the other parents about the incident.

   Punished the son or daughter.

3. Why might a parent react differently from the youngsters?

   Having responsibility of the guests in the home.

   Being concerned for their safety.

   Parents are "old-fashioned."

Simulation C: Riding with an Intoxicated Driver

Cast: Susan and Pat (two junior high school girls)
Jerry and Dan (two senior high school boys)

Setting: A street in town.

Situation: A junior high school girl, Susan, has a "crush" on a senior high school boy, Jerry, who pays no attention to her although he is aware that she likes him. One night, Susan and her girl friend, Pat, are walking to a local ice cream store when Jerry pulls up in a car with a friend and asks them if they want to go for a ride. Thrilled at his attention, Susan convinces her girl friend to go. They get in the back seat. Jerry offers them a sip from a near-empty wine bottle. It soon becomes apparent that he and his friend have been drinking as he starts speeding and otherwise "showing off."

Possible Process Questions:

1. What would you do if you were Pat?

   Get out of the car.

   Stay but don't drink.

   Stay and have a sip.

   What are some of the actions Susan could take?

   Stay in the car.

   Leave if Pat gets out.

2. If Susan decides to stay in the car, what may have influenced her to make that decision?

   Peer pressure from Jerry.

   Not wanting to be called "chicken."

Wanting to impress Jerry and friends.

Trying to act "grown-up."

3. If Susan stays, what might be the consequences of that decision?

Accident.

Fun.

Jerry says, "Susan, you're with it."

Arrest.

Parental upset.

Pat does not speak to Susan anymore.

4. If Susan decides to get out of the car, why might she make that decision?

Safety.

Fear of parental disapproval.

Not wanting to get Pat into trouble.

5. What might be the consequences of that decision?

Being called "chicken."

Not having Jerry like her.

Being safe.

Having Pat respect her.

Simulation D: A Chance for a Joy Ride

Cast: Jim (a new boy in town)
Fred, etc. (a few junior high school boys)

Setting: Fred's house.

Situation: Jim, an eighth grader, is new in town and has found it difficult to break into the cliques that exist in school. One day he is invited to Fred's house. Happy over the prospect of becoming a member of this group, he goes. On his arrival, several boys welcome him. They all have been drinking heavily. They offer Jim a drink. During the discussion, Fred brags about knowing how to drive, having learned on a farm tractor. He finds the keys to his mother's car and invites all the boys to go for a joy ride before his mother returns home.

Possible Process Questions:

1. If you were Jim, would you go with the boys?

   Yes.

   No.

   It depends.

2. If you did go, what might happen?

   Accident.

   Parental problems.

   Good fun.

   Arrest.

   Acceptance as "one of the boys."

3. If you did not go, what might happen?

   Being made fun of.

   Being called "chicken".

   Might encourage some other boys to think twice before going.

LESSON FOUR

TAKE-HOME ASSIGNMENT

1. Describe in one paragraph a drinking and/or drinking and driving situation in which you might get involved. Bring the paragraph to class for use in the next lesson.

LESSON FIVE

Dealing with Drinking and Driving Situations

Objectives*

General Objective IX (Behavior)

Students will be able to increase lines of communication with others in relation to alcohol.

Specific Objectives--They would be willing to participate in discussions:

26. in class on the problems of alcohol in the school, community and home,

27. exploring alternatives to alcohol abuse or misuse.

General Objective X (Behavior)

Students will state their intentions to act in a responsible manner in relation to the use and abuse of alcohol by themselves and others.

Specific Objectives--They would be willing to:

30. avoid drinking to the extent of losing control of their behavior,

31. respect a person's right not to drink.

Overview

Content

For some, making a decision not to drink is a lot easier than living with it. Generally, if a person has a good feeling about himself he will remain strong and secure in what he has decided. If he does not particularly like himself, his decision will be easily influenced by criticism and pressure, particularly when applied by peers.

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*Time permitting, this final lesson would be a good time to re-emphasize the objectives which may have received inadequate attention in earlier lessons.

The reasons for drinking may play an important part in whether one can honor his own decision about drinking. The alcoholic who, once on the way, cannot control his/her drinking is faced with giving up drinking entirely. There is no choice. Every individual should carefully think through his own reasons for drinking or not. If the reasons are healthy and he finds them satisfactory, he should stick with them. If they are unhealthy or if he is dissatisfied with them, he should try to change his drinking habits, and seek help if he is unable to "go it alone."

Because even a small amount of alcohol can impair judgment, particularly that of the inexperienced drinker, it is important that those who have decided to drink plan ahead the ways to avoid behavior that could lead to unpleasantness or injury to self or others. Those who have decided not to drink may change that decision in the future, and should be prepared for such an eventuality. And even if a person never drinks, he must know that a high percentage of the population does. Therefore, he will surely have to deal with a situation--such as riding as a passenger with an alcohol-impaired driver--in which pre-planning what to do or say would be helpful indeed.

Techniques

Students, in small groups, are asked to discuss the situations they described in the paragraph for the take-home assignment. The group then selects one situation to role-play before the rest of the class. The instructor will guide role-playing procedures as discussed in Lesson Four, pages 90-92.

Hopefully the objectives listed for Lesson Five will be covered in the role-playing situations designed by the students. However, since the

instructor has little or no control over the situations chosen, he/she may have to direct attention to the objectives through the process questions asked at the end of each role-play.

Examples: 1.) Objective 31 -- Students would be willing to respect a person's right not to drink.

Process Question -- Was it fair to make fun of the girl who refused to drink with the rest of you?

2.) Objective 27 -- Students would be willing to participate in discussions exploring alternatives to alcohol abuse or misuse.

Process Question -- What could we suggest "Johnny" do rather than get drunk every time he goes to a party?

Fifteen to twenty minutes before the end of the lesson the instructor should administer a *post*-test battery.

Materials Needed

The same "props" as for the simulations of Lesson Four. *Post*-test battery (for administration to students). Full instructions for administration and analysis are found in Appendix D.

INSTRUCTION

Activity	Description	Minutes	Total Minutes Elapsed
Small Group Discussions	"Your last assignment was to describe a drinking or drinking and driving situation in which you might be involved. Please form groups of four to six and discuss the situations you came up with. After you hear each other's ideas, select one situation for role-playing before the class. Decide who will play each part."	10	10
Presentations of Original Simulations	Each group in turn role-plays a situation before the rest of the class. The procedures of Lesson Four (pages 90-92) should be followed, with the instructor asking process questions suitable for the situation. This exercise gives the students a chance to explore situations that might be more relevant to their "real-life" than the suggestions for open-ended simulations included in Lesson Four.	20	30
Conclusion	At the end of the role-playing the instructor says, "After sharing the different responses you had to these situations, each of you must realize that the decision is yours and yours alone. Let's hope it will be a sensible one for you."		
Post-Module Test Battery	The instructor administers a *post*-test battery to evaluate the effectiveness of the Module, as well as for possible use in grading.	15	45

APPENDIX A

Rationale for Combining Alcohol Education and Traffic Safety at the Junior High School Level

Today's young people experiment earlier and more extensively than in the past with a variety of so-called adult behaviors, including drinking alcoholic beverages.[1] A National survey conducted early in 1975 indicated that more than half of the nation's seventh graders had tried drinking at least once during the previous year.[2] The same survey also found that approximately one in twelve seventh graders drank 50 or more times a year.[3] A similar survey showed about six percent of seventh graders drank either daily or at least several times a week.[4]

Most Americans have their first drink by the time they are thirteen, and two-thirds of our population over fifteen drink at least occasionally.[5,6] Dr. Morris Chafetz reports that the rate of alcoholism and problem drinking

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[1] Reginald G. Smart, The New Drinkers: Teenage Use and Abuse of Alcohol, Program Report Series, No. 4 (Toronto: Addiction Research Foundation of Ontario, 1976), p. 18.

[2] "Young People and Alcohol," Alcohol Health and Research World, DHEW Publication No. (ADM), 75-157, Summer 1975, p. 3.

[3] Ibid., p. 5.

[4] "Alcohol and Marijuana--Spreading Menace Among Teenagers," United States News and World Report, 79 (Nov. 24, 1975), p. 28.

[5] Robert M. Calvin, "A Profile of Our Youth Safety Problem," Highway User, September 1973, pp. 8-11.

[6] Henry Wechsler and Denise Thum, "Teen-Age Drinking, Drug Use, and Social Correlates," Quarterly Journal of Studies on Alcohol, 34, 4 (December 1973), pp. 1220-1227.

is increasing among youth--even those as young as nine to twelve years. Several factors contribute to this increase, he says: "The switch is on--from a wide range of other drugs to the most devastating drug of all: alcohol; sales of pop wines to youthful drinkers--they have increased ten-fold in the past four years; and, lack of awareness and knowledge among . . . youth about alcohol and related problems."[1] Another reason for the switch is that alcohol is society's acceptable, legal, advertised drug.

While teenagers drink for a variety of reasons, surveys[2] show "sociability" and the desire to do something "grown-up" as the most prominent. The year between ages thirteen and fourteen appears to mark a point at which many youngsters decide to drink,[3] and, once begun, consumption can be more than incidental. Another recent survey[4] of teenagers shows that: (1) 19 percent drink once a week, 26 percent drink twice a week or more; (2) 61 percent have been drunk once or

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[1]"Youth Shifting to Alcohol Use, Chafetz Warns," Alcohol and Health Notes, National Clearinghouse for Alcohol Information, September 1973, pp. 1, 5.

[2]"Young People and Alcohol," pp. 3, 4.

[3]National Institute on Alcohol Abuse and Alcoholism, "Drinking Motivations and Habits of Youth Illuminated by National Survey Results," NIAAA Information and Feature Service No. 18 (Bethesda, MD: Department of Health, Education, and Welfare, November 26, 1975), p. 4.

[4]A Strategic Study for Communications Programs on Alcohol and Highway Safety: High School Study (n.p.: Gray Marketing & Research Department for the Office of Pedestrian and Driver Programs, National Highway Safety Administration, U. S. Department of Transportation, 1974), pp. 26, 27.

more during the past month; (3) on the days they drink, 39 percent have one to three drinks, 29 percent four to eight, and 14 percent nine or more.

The rise in teenage drinking has been accompanied by serious disruption to the lives of the youth involved. Their drinking is a threat to their own health and safety as well as to that of those about them. Arrests of persons under eighteen for alcohol-related offenses (driving while intoxicated, liquor-law violations and drunkenness) increased nationally by 135% between 1960 and 1973. Among these, arrests for driving-while-intoxicated increased by more than 400%.[1] Thus, while the pattern of earlier heavier drinking has led to numerous problems for teenagers, foremost among these problems is drunken driving.

By any measure, drivers in the 15-to-24 age range experience trouble on the highways far beyond their numerical proportion. They make up about one-fifth (21.6%) of the motoring population, yet they are involved in 35% of all traffic accidents and in one-third of our traffic fatalities.[2,3] In one state 43 percent of the drinking drivers killed were 16 to 24 years old, but only 24 percent of the state's drivers were in that age group.[4] Alcohol creates a triple risk for

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[1]United States Federal Bureau of Investigation, Uniform Crime Reports for the United States, 1973. (Washington, D.C.: Government Printing Office, 1974), p. 2.

[2]Calvin, pp. 8-11.

[3]Richard Zylman, "Youth, Alcohol, and Collision Involvement," Journal of Safety Research, 5, 2 (June 1973) 58-72.

[4]"Youths Rank High Among Drinking Drivers," Traffic Safety June 1970, p. 8.

novices; they are both inexperienced drivers and inexperienced drinkers, and they are surely inexperienced at drinking and driving.

Several studies[1,2,3] tell us that youth who get into crashes have relatively low BAC's--drinking that might not have led to a crash if the driver had been more experienced in either drinking or driving, or both. It appears these young people are on two learning curves--vehicle control and vehicle control "under the influence." O'Day[4] found two peaks in crash occurrence, and Carlson[5] and Rosenberg et al[6] substantiated his findings. The first peak (involving learning to drive) occurs at age 18; the second peak (associating drinking with driving) occurs at about age 21. O'Day says ". . . it takes a couple of years for the young driver to learn the driving task. Then after age 18 his fatal accident involvement record improves until he reaches the legal drinking age; it then takes a couple of years (through ages 21-22) for him to learn to drink."[7]

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[1]William L. Carlson, "Age, Exposure, and Alcohol Involvement in Night Crashes," Journal of Safety Research, 5, 4 (December 1973), 247-259.

[2]Julian A. Waller, "Factors Associated With Alcohol and Responsibility for Fatal Highway Crashes," Quarterly Journal of Studies on Alcohol, 33, 1 (March 1972), 160-170.

[3]Zylman, loc. cit.

[4]Leon G. Goldstein, "Youthful Drivers as a Special Safety Problem," in The Young Driver: Reckless or Unprepared? ed. Patricia F. Waller, North Carolina Symposium on Highway Safety (Chapel Hill: University of North Carolina Highway Safety Research Center, 1971), pp. 37-101.

[5]Carlson, loc. cit.

[6]Nathan Rosenberg, Ronald H. Laessig and Robert R. Rawlings, "Alcohol, Youth, and Single-Car Fatal Accidents" (Unpublished paper, May 1973, 37 pp.).

[7]Goldstein, loc. cit.

Dr. James B. Gregory, while administrator of the National Highway Traffic Safety Administration, summarized the problem well:

> There is an alarming amount of drinking and driving taking place among a mainstream of American youth. In fact, high school students are involved in unsupervised social drinking situations almost as often as adults are today--half of them drink regularly, many get drunk and drive when drunk. Tragically, drunk driving is the number one killer of young people.[1]

In fact, it was while trying to do something to reduce the vulnerability of teenagers to alcohol-related traffic accidents and fatalities that the investigators realized that something had to be done in junior high school. While developing and field testing an alcohol and traffic safety mini-course[2] for high school driver education programs, the investigators found that drinking patterns that might lead to drunken driving are formed as early as the seventh or eighth grade with such imprint that little can be done about them later on. Although still open for adult guidance, seventh and eighth graders are seeking their own behavioral standards. At the same time they are experimenting with alcohol, they are looking forward to a driver's license. It seemed a good time to expose them to experiences that promote decisions leading to responsible, socially acceptable drinking and driving behavior.

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[1] Cross Roads, New York State Traffic Safety Council, 15, 6 (November-December 1975), 1.

[2] James L. Malfetti, Esther A. McGrath and Angelo G. DeMeo, Instructor's Manual, DWI Mini-Course for High School Driver Education Programs (New York: Safety Research and Education Project, Teachers College, Columbia University, 1976, reprinted), 243 p.

Alcohol education at the junior high school level is nothing new. It has had a long and undistinguished history, grounded in moralistic teaching directed toward abstinence, and with little meaning for today's teenagers.[1,2] Many of the facts taught in alcohol education have been irrelevant to the adolescent from his point of view. To have impact, alcohol education must address the realities of the world in which the teenager lives, including his immediate and future concerns.[3,4] Further, it must be geared to his level of understanding and to what is practical for him.

Authorities also make clear that to be effective alcohol education must have a broader and more realistic goal than abstinence. Thus, the moderate-use model seems to offer the best hope for success. This approach maintains that problems related to alcohol arise when abusive drinking takes place and that moderate drinking is both acceptable and distinguishable from alcohol abuse. The concern is not to promote or prevent use but rather to encourage responsible drinking habits if one makes the choice to drink.[5]

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[1]Smart, chap. 9, passim.

[2]Gail G. Milgram, "A Historical Review of Alcohol Education: Research and Comments," The Journal of Alcohol and Drug Education, Winter 1976, pp. 2, 3.

[3]Godfrey M. Hochbaum, "Learning and Behavior--Alcohol Education for What?" Alcohol Education: Conference Proceedings (Washington D.C.: U. S. Department of Health, Education, and Welfare, March 1966), p. 31.

[4]Gerald G. Globetti, "Alcohol Education in the School," Journal of Drug Education, 1 (September 1971), 245.

[5]John Davies and Barrie Stacey, "Alcohol and Health Education in Schools," Health Bulletin, 29, 1 (January 1971), pp. 1, 2.

The National Institute on Alcohol Abuse and Alcoholism is especially supportive of preventive programs that promote responsible decision-making about alcohol use. Judith Katz, Acting Chief of NIAAA Youth Service Branch, says, "Young people need clear, realistic information about alcohol use and misuse in order to make responsible decisions."[1] Other authorities see alcohol and traffic safety as an area in which the moderate-use philosophy can and should be applied.[2,3]

Seventh and eighth graders are approaching the age at which driving a car, or riding as a passenger in one with peers, is an important component of independence and social functioning. Through the automobile they are looking forward to power and autonomy seldom afforded in other areas of life.[4] It is a good time to expose them to experiences that promote decisions leading to responsible, socially acceptable drinking and driving behavior. It is also a good time to capitalize on their avid interest in driving to acquaint them with the nature and tragedies of alcohol abuse in its many aspects.

The investigators believe that immediate and future concerns for obtaining and maintaining the driving privilege can be the "grabbers" for conveying information to seventh and eighth graders and for helping

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[1]"Young People and Alcohol," p. 6.

[2]Lee N. Hames, "Can Students Be Taught to Mix Alcohol and Gasoline--Safely?" The Journal of School Health, 41, 9 (November 1971), 487.

[3]Gail G. Milgram, "Analysis of Alcohol Education Curriculum Guides," Journal of Alcohol and Drug Education, 20 (Spring 1975), 15.

[4]David Klein, "Adolescent Driving as Deviant Behavior," in Patricia F. Waller, pp. 2-19.

them develop the feelings and attitudes and behavior necessary for reducing or precluding alcohol abuse and one of its main symptoms--drunken driving--to which they soon would otherwise be so disproportionately vulnerable.

APPENDIX B

Participatory Teaching Techniques

After developing objectives and content for the Module, the investigators were faced with a selection of teaching techniques that would interest and involve students and be used willingly by instructors. Thus the development and inclusion of *Celebrity Squares* (pages 28-31, 42-50), *Find-the-Word* (page 54), *Mix and Match* (pages 79-81, 83), *Crossword Puzzle* (page 72) and *Simulations* (pages 90-98, 102). When conducted at the preliminary field testing sites, gaming activities produced active student involvement and a student-centered environment which appeared to motivate students toward exploration, learning, and attitudinal improvement. These results seemed consistent with the literature which suggests that student-centered classroom practices are more effective than authoritative and teacher-centered practices in improving affective behaviors.[1]

Moreover, the technique of educational games presents a unique opportunity to integrate cognitive, affective and psychomotor aspects of learning,[2] in addition to offering educators opportunities to regain the natural tendency to learn by enjoyable involvement. Games enable students to become actively involved in situations in which they interact with other students and with teachers.[3] Games can also be arranged to change the structure of rewards, shifting from interpersonal

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[1] J. B. Khan and Joel Weiss, "Teaching of Affective Responses" in Second Handbook of Research on Teaching, ed. Robert Travers (Chicago: Rand McNally and Company, 1973), p. 787.

[2] National Special Media Institutes, The Affective Domain: A Resource Book for Media Specialists (Washington, D. C.: Cryphon House, 1972), p. 134.

[3] Gene Stanford and Albert E. Roach, Human Interaction in Education (Boston: Allyn and Bacon, Inc., 1974), pp. 212-215.

competition, with its conflict-producing effects, to intergroup competition in which group rewards reinforce achievement. Among adolescents it is crucial to use the informal group rewards to reinforce the aims of education rather than to impede them.[1] Thus, the inclusion of AL-CO-HOL Scoreboard (pages 10-12), with its record of points awarded to the competing groups.

Unterberger and DiCicco stated, "The proposed goal for alcohol education is to teach responsibility in relation to alcohol and thus prevent excessive or irresponsible use. Although group discussion is probably the most important aspect of teaching teenagers about alcohol, other methods should be included. These include participation-type methods--buzz groups, panel discussions, role playing, as well as the more traditional student projects, reading assignments and lectures."[2] The investigators selected teaching techniques that are expected to reinforce the content in such a way that students will begin to make mature and responsible decisions about alcohol and traffic safety.[3] These techniques offer the students the opportunity to meet in groups, share their own ideas and attitudes with those of their peers[4] and clarify values.

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[1]J. S. Coleman, The Adolescent Society (New York: Free Press, 1964), p. 322.

[2]Hilma Unterberger and Lena M. DiCicco, "Alcohol Education Re-evaluated," Bulletin of the National Association of Secondary School Principals, 52 (1968), 26-28.

[3]Peter Finn, "The Role of Attitudes in Alcohol-Traffic Safety Education," in Proceedings of the Sixth International Conference on Alcohol, Drugs, and Traffic Safety, Toronto, Canada, September 1974, pp. 881-88.

[4]Allan F. Williams, Lena M. DiCicco and Hilma Unterberger, "Philosophy and Evaluation of an Alcohol Education Program," Quarterly Journal of Studies on Alcohol, 29 (1968), 685-702.

Group discussion techniques were emphasized, since the peer group is probably the most important current influence on the behavior of the teenager. Discussion of the film, *Alcohol: How Much is Too Much?* (pages 33-37), the *Question/Answer Contest* (pages 65-66), *Risks and Rewards* (pages 80, 84), *Brainstorming* (page 80), and *Simulations* (pages 90-98, 102) all rely heavily on group discussion. These techniques encourage viewers to compare their feelings and reactions with those of others, to bring their values into focus and to move toward rational decisions about drinking and related matters.

Risks and Rewards is also an illustration of values clarification.[1] After determining the reasons others drink, the students are then asked tentatively to decide whether they will drink or not as a general practice and/or on specific occasions. The *Simulations*--in which they act out through role-playing what they will say and/or do when faced with alcohol and traffic safety situations represent another opportunity for becoming more clear about where they stand. Such experiences are intended to help each student discover his attitudes about an issue so he can choose more freely from alternatives after careful consideration of the consequences of each alternative. Hopefully this process will also make him happier about the choice and more willing publicly to affirm, act, and repeatedly act on the choice as a pattern of life.

Simulations offer another advantage--obtaining the essence of something, but without all the aspects of reality.[2] They give relevance to the Module by allowing a student to experience vicariously what he

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[1]National Special Media Institutes, p. 128.

[2]Ibid., p. 128.

eventually may have to experience in the real world. He is helped to make decisions in "made-up" conditions without fear of censure or embarrassment and to modify what he might do on the basis of immediate feedback from peers.

Clearly, then, simulations can help students plan ahead or "rehearse" their roles in potential drinking situations. John Dewey[1] stressed the need for experience in education. More recently it has been suggested that, since drinking behavior is learned behavior[2] one way to develop more acceptable modes would be by letting students practice them within safe confines.[3,4] Obviously this is neither practical nor acceptable in regard to alcohol and traffic safety methods involving junior high school students. The best approximation is through role-playing or acting out potential situations in the safe, constructive atmosphere of the classroom.[5] Role-playing can add interest and a degree of realism to what otherwise would be purely abstract discussion.[6] Furthermore during the role playing the

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[1]John Dewey, Experience and Education (New York: The Macmillan Company, 1938).

[2]George L. Maddox, "Adolescence and Alcohol," in Alcohol Education for Classroom and Community: A Source Book for Educators, ed. Raymond G. McCarthy (New York: McGraw-Hill Book Company, 1964), pp. 32-47.

[3]Morris E. Chafetz, "Problems of Reaching Youth," The Journal of School Health, 43, 1 (January 1973), 40-44.

[4]Lee N. Hames, "Can Alcohol Education Change the Role of Youth on Our Highways?" in Proceedings, pp. 861-68.

[5]Unterberger and DiCicco, pp. 15-29.

[6]Donald A. Read and Walter H. Greene, Creative Teaching in Health, chapters 12 and 13, (New York: The Macmillan Company, 1971),pp. 243-276.

instructor can detect deficiencies in knowledge and correct them.[1]

The investigators believe that an effective curriculum should emphasize the freedom of the individual to make responsible choices[2] and that active participation in the learning process will help the student to achieve responsible behavior. Knowledge, of itself, will not produce the desired results. The knowledge must be acquired in company with proper motivation and must be seen by the learner as related to life's activities.[3,4] They also believe that a student's attitude toward an instructional strategy may prove to be more important for learning than either aptitude or past achievement. It is likely that the way media and strategies are used during the course can either promote or hinder learning. The investigators selected techniques with these beliefs in mind.

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[1]David C. Rimm and John C. Masters, Behavior Therapy: Techniques and Empirical Findings (New York: Academic Press, 1974), pp. 92, 93.

[2]Samuel A. Miles, ed., Learning About Alcohol: A Resource Book for Teachers (Washington, D.C.: American Association for Health, Physical Education, and Recreation, 1974), pp. 47-58.

[3]Richard W. Bishop, "Improving Teacher Competency Related to the Alcohol Traffic Safety Topic," Journal of Traffic Safety Education, 20 3 (April 1973), 11-13.

[4]Godfrey M. Hochbaum, "Learning and Behavior--Alcohol Education for What?" in Alcohol Education: Conference Proceedings (Washington, D. C.: U.S. Department of Health, Education, and Welfare, March 1966), pp. 29-36.

Post-Module Activities

For some students, the Module might provide a momentum that they should like to continue. Three ways (of many) in which this might be done are briefly described below. While the instructor is necessarily a part of the process, as much responsibility as possible should be given to the student(s).

Parent's Night

Have students plan an evening at school for their parents. Selected aspects of alcohol education and traffic safety could be presented through aids utilized in the Module. The film *Alcohol: How Much is Too Much?* could be shown and followed by a question-and-answer period. The chart *They All Pack the Same Punch* could be displayed and discussed. Some of the games utilized in the Module could be played, with parents and students participating.

Student Teachers

Those students who seemed especially interested in the Module, and who have a good grasp of what went on, might be invited to visit an elementary-level class to present a lesson covering the most important aspects of alcohol and traffic safety, using appropriate instructional aids and gaming techniques.

Peer Counseling

A room could be made available after school or during lunch, study or free periods for the showing of a film or for the distribution of materials relating to alcohol and traffic safety. The room could be staffed by students who had completed the Module and who were clearly apprised of what questions they should or should not attempt to answer and of appropriate referral procedures and persons.

APPENDIX C

Professional References with Selected Annotations

A Strategic Study for Communication Programs on Alcohol and Highway Safety: High School Study. n.p.: Gray Marketing & Research Department for the Office of Pedestrian and Driver Programs, National Highway Safety Administration, U.S. Department of Transportation, 1974.

Alcohol Education: Conference Proceedings. Washington, D.C.: U.S. Department of Health, Education, and Welfare, March 1966.

Barett, Morris. Health Education Guide. 2nd ed. Philadelphia: Lea and Febiger, 1974.

Block, Marvin A. "Alcohol--Man and Science." New York State Journal of Medicine, November 1, 1970, pp. 2732-2740.

Chafetz, Morris E. Facts About Alcohol and Alcoholism. Rockville, Maryland: National Institute on Alcohol Abuse and Alcoholism, 1974.

This digest of Alcohol and Alcoholism briefly defines alcoholism and problem drinking, the factors involved, the effects on the drinker and on society, and especially emphasizes the prevention and treatment, including addresses of treatment centers and organizations.

_____. "Problems of Reaching Youth." The Journal of School Health, 43, 1 (January 1973), 40-44.

Committee on the Medical Aspects of Automotive Safety. Drinking and Driving. Chicago: American Medical Association, 1971.

Edwards, Gerald. Reaching Out: The Prevention of Drug Abuse Through Increased Human Interaction. Garden City, N.Y.: Innovative Designs for Educational Action, Inc., 1972.

A guide suggesting innovative exercises and techniques that may help students be better able to assume responsibility for their own behavior and learning.

Facts About Alcohol, rev. ed. Toronto: Addiction Research Foundation of Ontario, 1975.

This brief pamphlet deals largely with short- and long-term effects of the use of alcohol. Statistics included reflect Canadian research.

Finn, Peter. "The Role of Attitudes in Alcohol-Traffic Safety Education." Proceedings of the Sixth International Conference on Alcohol, Drugs, and Traffic Safety. Toronto, Canada. September 1974.

Finn, Peter, and Judith Platt. Alcohol and Alcohol Safety: A Curriculum Manual for Junior High Level. Volumes I and II. Cambridge, MA: Abt Associates Inc., Human Development Division, 1972.

These manuals were prepared for the National Highway Traffic Safety Administration and the National Institute on Alcohol Abuse and Alcoholism and is available from the Superintendent of Documents, U. S. Government Printing Office, Washington, D.C. 20402. They were designed to provide teachers, school departments and workshops with education objectives, classroom activities and materials and resources for developing curricula.

Hames, Lee N. "Can Alcohol Education Change the Role of Youth on Our Highways?" Proceedings of the Sixth International Conference on Alcohol, Drugs, and Traffic Safety. Toronto, Canada. September 1974.

Hawley, Robert C., and Isabel L. Hawley. Human Values in the Classroom: A Handbook for Teachers. New York: Hart Publishing Company, 1975.

Hochbaum, Godfrey M. "Learning and Behavior--Alcohol Education for What?" Alcohol Education: Conference Proceedings. Washington, D.C.: U.S. Department of Health, Education, and Welfare, March 1966. pp. 29-36.

Howe, Leland W., and Mary M. Howe. Personalizing Education: Values Clarification and Beyond. New York: Hart Publishing Co., Inc., 1975.

The authors explain how and why the valuing process can be made to permeate the total educational process and offer well over 100 strategies as suggestions.

If You Drive, What About Drinking? Falls Church, VA: American Automobile Association, 1975.
Available from local affiliates of the American Automobile Association (AAA).

Jones, Ben Morgan, and Oscar A. Parsons. "Alcohol and Consciousness: Getting High, Coming Down." Psychology Today, 8, 8 (January 1975), 53-58.

*McCarthy, Raymond G., ed. Alcohol Education: For Class and Community, 2nd ed. New York: McGraw-Hill Book Company, 1976.

Specialists from a number of disciplines provide a comprehensive presentation of facts and attitudes regarding the use and non-use of alcoholic beverages and questions of social concern arising from excessive use.

* Contains extensive bibliographies or listings of further references related to youthful drinking practices and/or alcohol and highway safety.

Maddox, George L. "Adolescence and Alcohol." Alcohol Education for Classroom and Community: A Source Book for Educators. ed. Raymond G. McCarthy. New York: McGraw-Hill Book Company, 1964. pp 32-47.

*Miles, Samuel A., ed. Learning About Alcohol: A Resource Book for Teachers. Washington, D.C.: American Association for Health, Physical Education and Recreation, 1974.

This book is available from the association, a national affiliate of the National Education Association, 11201 Sixteenth Street, Washington, D.C. 20036.

National Public Services Research Institute. You . . . Alcohol and Driving. Falls Church, VA: Traffic Engineering and Safety Department, American Automobile Association, 1976.

This booklet is the student portion of a three-part package of instructional materials designed for classroom use. This two-color booklet makes effective use of charts, graphs and line drawings to provide a succinct, factual and intereating overview of alcohol as it impairs one's driving ability.

Proceedings of the Sixth International Conference on Alcohol, Drugs, and Traffic Safety. Toronto, Canada. September 1974.

Russell, Robert D. "Alcohol Education: Problems and Goals: The Concept Approach to Alcohol Education." Quarterly Journal of Studies on Alcohol, 30 (1969), 158-160.

This approach developed by a teachers' workshop emphasizes maximum understanding of interrelationships and encourages active student participation.

Saltman, Jules. The New Alcoholics: Teenagers. Public Affairs Pamphlet, No. 499. New York: Public Affairs Committee, Inc., 1973.

The author deals succinctly with why youngsters drink, why so many of them become problem drinkers, how alcohol and drugs relate, and what can be come about alcohol abuse by teenagers.

Simon, Sidney B., Merrill Harmin, and Howard Kirschenbaum. Clarifying Values Through Subject Matter. Minneapolis: Winston Press, 1973.

_____, Leland W. Howe, and Howard Kirschenbaum. Values Clarification: A Handbook of Practical Strategies for Teacher and Students. New York: Hart Publishing Company, 1972.

Smart, Reginald G. The New Drinkers: Teenage Use and Abuse of Alcohol Program Report Series No. 4. Toronto: Addiction Research Foundation of Ontario, 1976.

The author attempts to pull together the findings of recent studies about youthful drinking and its problems and to discuss reasons for drinking, the extent of drinking problems, and steps parents and social institutions might take to help solve such problems.

Statistics Division, National Safety Council. Accident Facts: 1976 Edition. Chicago: National Safety Council, 1976.

Although the numerous charts and graphs in this booklet present world-wide statistics about many classes of deaths and injuries, the major emphasis is on motor-vehicle accidents, including those which are alcohol-related.

Todd, Frances. "Problems of Teaching About Alcoholism." Alcohol Education for Teenagers: Proceedings of a Workshop. Newport: Rhode Island Division of Alcoholism, 1965.

Unterberger, Hilma, and Lena DiCicco. "Alcohol Education Re-evaluated." Bulletin of the National Association of Secondary School Principals, 52 (1968), 15-29.

A critical analysis of the alcohol education curriculum in public schools is presented.

*U. S. Department of Health, Education, and Welfare. Public Health Service. Alcohol and Health: Second Special Report to the U.S. Congress, 1974. Report by the Secretary of Health, Education, and Welfare. Washington, D.C.: U. S. Government Printing Office, 1974.

Single copies at no cost are available from the National Clearinghouse for Alcohol Information, Box 2345, Rockville, Md. 20852. In quantity, copies are available from the Superintendent of Documents, U. S. Government Printing Office, Washington, D.C. 20402, Stock Number 1724-00399.

*Waller, Patricia F., ed. Alcohol and Highway Safety. North Carolina Carolina Symposium on Highway Safety, Vol III. Chapel Hill, North Carolina, Fall 1970.

Copies are available from the University of North Carolina Highway Safety Research Center, Chapel Hill, North Carolina 27514.

*_____. The Young Driver: Reckless or Unprepared? North Carolina Symposium on Highway Safety, Vo. V. Chapel Hill, North Carolina, Fall 1971.

This is available from the University of North Carolina Highway Safety Research Center, Chapel Hill, North Carolina 27514.

Williams, Allan F., Lena M. DiCicco and Hilma Unterberger. "Philosophy and Evaluation of an Alcohol Education Program." Quarterly Journal of Studies on Alcohol, 29 (1968), 685-702.

*Zylman, Richard. "Youth, Alcohol, and Collision Involvement." Journal of Safety Research, 5, 2 (June 1973), 58-72.

Additional relevant references are indicated where appropriate throughout the Module and Appendices.

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Introduction

A preliminary version of the Junior High School Module in Alcohol Education and Traffic Safety, developed from the procedures described in Background and Acknowledgements (pages i-iii), was field-tested in a controlled study with approximately 6000 students at 45 junior high schools at eleven cities in seven states. Public and private schools were chosen from urban, suburban and rural settings so that the results would be broadly applicable.

Instructors at the field-testing sites were trained in the use of the Module, and asked to review it page-by-page, commenting, correcting and suggesting. They were asked to respond (in an evaluation booklet, a condensed version of which appears on pages 123-128) to specific questions about most aspects of the Module. A summary of responses appears on pages 129-131.

By filling out two forms (pages 131-132), students made their own evaluation of the Module. Results are found on pages 133-136. Finally, instructors were requested to administer *pre/post* test batteries to measure change in terms of the knowledge, attitudinal and behavioral objectives (pages 6-9) of the Module.

The results of the evaluations described above were used to transform the field-testing version of the Module into the final version, and a summary of the more important changes appears on pages 136-138.

This Appendix is divided into three sections: (1) field-testing evaluations (except those for *pre/post* test batteries) by instructors and students; evaluation through *pre/post* test batteries at field-testing sites (including details for administration, scoring and analysis); and (3) current measuring instruments with instructions for administration and scoring.

SECTION ONE: FIELD-TESTING EVALUATIONS BY INSTRUCTORS AND STUDENTS

Instructors

The following form* was distributed and explained at the training workshop for field-testing instructors.

INSTRUCTIONS FOR SUGGESTING IMPROVEMENTS TO THE FIELD-TESTING VERSION OF THE MODULE

1. As you read and use the Module, please write your comments, suggestions for additions and deletions and other changes on the margins, between the lines or on the reverse side of the pages to which they apply. Upon completion please return the entire Module in the self-addressed stamped envelope as soon as possible. You will, of course, be sent a modified final version of the Module when it is ready.
2. In addition, please comment as appropriate on pages 124-128 of this form and return them in the same envelope described in (1) above.

---

* This is a condensation of the far more comprehensive form given to the field-testing instructors. The actual form has questions distributed over 18 pages, typed one side only, so that there would be ample room for comments and suggestions.

INTRODUCTION*

1. Is the case for prevention of teenage alcohol abuse and related driving accidents made strongly enough? Would you like additional references? Or do you feel there are too many already?
2. Does the Introduction give you sufficient indication of the "whys and hows" of the Module, and of why it is being directed toward 7th and 8th graders?
3. What, if anything, do you find missing?

Goal

1. Is the goal practical and satisfactory? If not, how should it be rewritten?

Objectives

1. Do you find any of the objectives impractical or unrealistic? If so, which?
2. Which objective(s) do you feel is (are) the most important?
3. Are objectives missing? If so, please state them.

Evaluation

1. Does the description of what is to be done come across clearly? If not, what would you say to improve it? Are the directions clear for the administration of the test batteries?

Pre-Module Activities and Assignments

1. Are the instructions adequately stated?

---

* This and following headings were in the order in which they appeared in the field-testing version of the Module. For easy reference, each heading was followed by the page(s) which it covered in the Module.

Organization of Lessons

1. Is the overview adequate? If not, how should it be improved?

MATERIALS FOR THE MODULE

1. Is this chart helpful in understanding what materials will be needed? If not, how should it be improved?

Homework Assignments

1. Is there an advantage in being able to see the assignments in one place?
2. Do you find helpful the summary of homework assignments, collections and returns? If not, what seems to be wrong?

APPENDICES

Appendix A -- Is this additional documentation necessary, helpful and convincing?

Appendix B -- Is the case for participatory teaching techniques adequately made? If not, how should it be improved?

Appendix C -- Are the instructions clear? If not, how might they be improved?

Appendix D -- 1. Do you find helpful the summary of the overall field-testing evaluation plan? If not, what is wrong?

2. Do you feel the *pre/post* test batteries to be satisfactory measures of the effectiveness of the Module? If not, what would you suggest?
3. What do you think of the questions used in the *pre/post* test batteries? Any suggestions for improvement? If so, they should be written directly on the test battery forms.

Appendix E -- Is this helpful? Would you like additional references, or more annotations? Do you know of any that might be valuable for others? (If so, please give as much detail as you can.)

Appendix F -- Are these forms and materials all right where they are? Or would you prefer to have them incorporated into the respective lessons?

Overview of Lessons

Is this overview helpful? How might it be improved?

LESSON ONE

1. Were the objectives suitable? If not, what changes do you suggest?
2. Was the overview of content clear and accurate? If not, please write comments directly on the text.
3. Was the overview of techniques clear?
4. Did the techniques help to meet the objectives?
5. What went over especially well in class?
6. What seemed to go wrong? Please suggest ways if you can to overcome the problem.
7. What seemed to contribute little?
8. Were the time allocations adequate? If not, which should be changed, and by how much?
9. Did the homework assignment seem reasonable?

LESSON TWO

(The same questions were asked for Lesson Two as for Lesson one except for the following question added at the end.)

10. Did most students complete the homework assignment? Was it valuable?

LESSON THREE

(The same questions were asked for Lesson Three as for Lesson Two except that a question eleven was added.)

11. Were the discussions of the resolutions regarding the simulations productive? Do you feel the students took these discussions seriously in ways that suggested some influence on their future behavior?

Please answer the following six questions candidly:

1. Do you regard the Module as valuable? If not, how would you improve it? Or what substitute would you suggest?
2. How would you characterize the students' reactions to the Module on the following 1-5 scale?

	1	2	3	4	5	
very interested						very bored
liked techniques						disliked techniques
participated more than usual						participated less than usual
liked more than most units or modules						disliked more than most units or modules

3. How closely did you follow the teaching techniques suggested in the manual?

_____ completely

_____ most of the time

_____ about half the time

_____ some of the time

_____ not at all

4. How many class periods did you actually spend on the three lessons described in the manual?

_____ one or two

_____ three

_____ four

_____ five

_____ six or more

5. Please indicate how you feel about the Module, in terms of the items below.

	Negative 1	2	Neutral 3	4	Positive 5
Overall rating	____	____	____	____	____
Relevance of Objectives	____	____	____	____	____
Accuracy of Information	____	____	____	____	____
Value of Teaching Techniques	____	____	____	____	____
Suitability of Module for Junior High School Students	____	____	____	____	____

6. Do you believe the Module will have positive influence on the behavior of the students who took part?

_____ Not a bit _____ Probably _____ Definitely Yes

Summary of Field-Testing Instructors' Evaluation of the Module

Although 45 instructors participated in field-testing the Module, only 40 submitted evaluation forms. Responses to individual questions were analyzed in an attempt to determine what the instructors thought went well and what should be improved. The range of responses was wide; some were grouped and reported statistically, while others were synthesized and used as appropriate.

The instructors reported that the introduction combined with Appendix A increased their understanding of the need to do something about alcohol education and traffic safety at the junior high school level. While they supported the goal and all of the objectives of the Module, 55% indicated that there were too many objectives to deal with adequately in three, 45 minute lessons. The large majority (82%) recommended that either the number of objectives be reduced or the time extended, with most favoring the latter.

The instructors commented positively on the organization of the Module, but they urged that the instructional aids grouped in Appendix F be placed at the end of the lesson to which they obtained. With some reservations about the suitability of the language of the *pre/post* test batteries for junior high school students, the instructors found the batteries adequate for various evaluation purposes.

On the whole the instructors were positive about the value of the Module, especially the gaming activities. *Celebrity Squares*, *Question/Answer Contest*, and *Simulations* (Role-Playing) were most favorably received. Some instructors were so impressed by results with these techniques that they expressed intention to use them for other subjects as well. But most of them added that the very success of the techniques demanded that some more time be given to the Module, for they felt rushed in exploiting the techniques, and had to sacrifice many "teachable moments."

Forty field-testing instructors replied as follows to a request for their candid and honest evaluations of the Module:

1. Do you regard the Module as valuable?

   Thirty nine of the forty replied, "Yes" (but numerous of them added the proviso that it be expanded to five lessons). One said, "Fairly valuable but they will drink and drive in spite of all attempts to stop them."

2. How would you characterize the students' reactions to the Module on the following 1-5 scale?

	1	2	3	4	5	
very interested	20	17	3			very bored
liked techniques	25	14	1			disliked techniques
participated more than usual	15	19	6			participated less then usual
liked more than most units or modules	21	16	3			disliked more than most units or modules

3. Please indicate how you feel about the Module, in terms of the items below.

*	Negative 1	2	Neutral 3	4	Positive 5
Overall rating	___	___	1	6	33
Relevance of Objectives	___	___	1	13	26
Accuracy of Information	___	___	___	6	34
Value of Teaching Techniques	___	___	2	12	26
Suitability of Module for Junior High School Students	___	___	1*	11	28

* Said he had to teach 50 boys at one time in a cafeteria.

4. Do you believe the Module will have positive influence on the behavior of the students?

1 Not a bit 18 Probably 21 Definitely Yes

Students

In addition to making their own evaluations, instructors were asked to submit the following two forms to their students.

STUDENT EVALUATION FORM ONE

Please rate items 1-5 according to the following scale:

5 strongly agree	4 agree	3 neutral	2 disagree	1 strongly disagree

1. I participated more in class than I usually do. 1. ____
2. I enjoyed being in class and had fun learning. 2. ____
3. I learned about alcohol and traffic safety. 3. ____
4. I liked being in a group for the AL-CO-HOL Scoreboard. 4. ____

# # # # # #

*5. In the three class periods I learned . . . . . .
6. I would like to have done more in relation to . . . . . .
7. I wish we didn't do the following activity(ies). . . . . .
8. I would improve the module by . . . . . .

---

* On the actual form more space was provided for answers to questions 5-8.

STUDENT EVALUATION FORM TWO

Please rate the following activities done in the module by using this scale:

5	4	3	2	1
Excellent	Good	Average	Fair	Poor

1. *Celebrity Squares* (like Hollywood Squares) 1. ____
2. *Question/Answer Contest* (trying to guess the closest number) 2. ____
3. *Mix and Match Contest* (deciding whether Gail, Stan, etc. had a BAC) 3. ____
4. *Risks and Rewards* (chart about reasons for drinking or not) 4. ____
5. *Role Playing* (the party, the alcoholic mom and driving situations) 5. ____
6. *Find the Word* (trying to find the words in the scramble) 6. ____
7. *Crossword Puzzle* 7. ____
8. *Homework Assignments* (interviews and writings done at home) 8. ____
9. *"Alcohol: How Much is Too Much?"* (film with the goldfish) 9. ____

Summary of Field-Testing Students' Evaluation of the Module

Table I reflects the general feelings of the students regarding their experience in the Module and profit from it. It shows a high positive response, particularly in view of the oft professed lack of receptivity of junior high school students to almost anything that goes on in a school setting.

Table I

Students' Responses to Questions One through Four of Student Evaluation Form One by Total Percent for Strongly Disagree (1) Disagree (2) Neutral (3) Agree (4) Strongly Agree (5) (N = 3340)[1]

Questions	%				
	1	2	3	4	5
1. I participated more in class than I usually do.	2.3	8.8	37.6	37.7	13.5
2. I enjoyed being in class and had fun learning.	2.7	3.8	15.1	44.6	33.7
3. I learned about alcohol and traffic safety.	1.6	2.4	10.8	53.1	32.0
4. I liked being in a group for the AL-CO-HOL Scoreboard	2.7	4.8	14.0	39.0	39.5

Table II synthesizes and summarizes the wide variety of responses made by students to questions 5-8, of Student Evaluation Form One.

[1]Percentages based on N from 3326-3335. Difference from 3340 due to non-response to item.

Table II

Students' Responses to Open-Ended Questions
Five through Eight of Student Evaluation Form One
By Category and Percent

Item	Response Categories	Response %[1]
5. In the three class periods I learned...	a lot about alcohol and traffic safety	41.9
	how alcohol affects the body	16.2
	about driver related problems	13.0
	that alcohol is dangerous if misused	8.7
	about BAC	6.4
	about alcoholism	4.7
	about oxidation rate	2.5
	that help is available	2.0
	that "they all pack the same punch"	1.6
	miscellaneous information	11.7
	no answer	4.3
6. I would like to have done more in relation to...	alcohol and traffic safety	14.3
	role playing	10.9
	celebrity squares	10.4
	games	8.5
	movies	4.4
	find the word	3.6
	crossword puzzle	2.7
	drugs	2.5
	question/answer contest	2.1
	miscellaneous	32.0
	no answer	16.2
7. I wish we didn't do the following activity..	nothing -- it was all good	29.3
	homework	14.6
	crossword puzzle	13.2
	tests	6.2
	mix and match	3.4
	question/answer contest	1.6
	miscellaneous	13.5
	no answer	20.5
8. I would improve the module by ...	a positive personal action	15.1
	nothing -- it was all good	14.2
	more role-play	13.4
	more time	11.1
	more games	8.4
	more movies	7.0
	more activities	6.2
	more discussions	2.0
	miscellaneous	7.8
	no answer	19.6

[1]Due to multiple responses this will not add to 100% for a category.

Table III presents students' ratings of the nine activities listed in Student Evaluation Form Two. *Celebrity Squares* and role-playing were the "winners", as they were with the instructors.

Table III

Students' Responses to Nine Activities in the Module by Total Percent for Poor Rating (1) Fair Rating (2) Average Rating (3) Good Rating (4) and Excellent Rating (5) (N = 3340)[1]

Activity	% 1	% 2	% 3	% 4	% 5
1. Celebrity Squares	2.6	5.8	11.9	38.0	41.7
2. Question/Answer Contest	4.5	11.8	26.0	39.9	17.8
3. Mix and Match Contest	8.8	20.0	33.7	26.9	10.6
4. Risks and Rewards	8.1	19.1	33.2	28.2	11.4
5. Role Playing	5.8	8.0	14.4	27.7	44.1
6. Find the Word	4.9	8.3	16.1	33.7	37.0
7. Crossword Puzzle	11.4	15.3	22.6	30.0	20.7
8. Homework Assignments	19.3	19.6	25.8	23.2	12.1
9. "Alcohol: How Much Is Too Much?"	4.0	7.9	16.3	34.8	36.9

[1]Percentages based on N of from 3248-3300; the difference from 3340 is due to non-response to item.

Summary of Revisions to Module
Based on Evaluations by Instructors and Students
at Field-Testing Sites

Hundreds of comments and suggestions were received from instructors and students who participated in the field-testing. Many were minor or technical or clerical and could be handled quite easily. Others prompted important revisions in the Module, and these are summarized below:

1. More time -- There was almost universal agreement on the need for more time. Consequently the Module was expanded from three to five forty-five minute lessons. Although this seemed a simple enough task, in effect it resulted in rewriting the entire Module: objectives, content, techniques, instructional aids -- all had to be redone and re-assigned by lesson.
2. Celebrity Squares -- This turned out to be a very popular activity and was extended to two lessons instead of one.
3. Role Playing -- This activity was also popular and apparently valuable, and therefore was expanded to two lessons from one. The increased time gave students an opportunity to design role-playing situations related to their own concerns. Quite a few instructors were inexperienced and uncertain about guiding the role-playing skillfully, and numerous aids toward this end have been built into the revised version of the Module.
4. Crossword Puzzle -- The original version proved too difficult for junior high school students, and an easier one was created. Moreover some words in the earlier puzzle were not relevant for the Module, and more appropriate words and concepts appear in the revision.

5. Mini-Lecture -- It was found that concepts such as Blood Alcohol Content (BAC), dealt with in a mini-lecture as part of one lesson, needed reinforcement in a subsequent lesson, if the idea was to stick. It was so done.

6. Homework Assignments -- Never popular, homework assignments were re-named take-home assignments, and divided into smaller doses for the revised Module. Further, to increase motivation, assignments have been incorporated into those activities for which points are awarded on the AL-CO-HOL Scoreboard.

7. Pre/Post Test Battery -- Originally the authors planned *pre/post* testing for all students. Field-testing made clear that not all junior high schools have adequate time and resources for *pre/post* testing. Therefore the revised Module includes a planned *post* test, but an optional *pre* test, with full instructions for administration, scoring and analysis of results under a variety of circumstances.

8. AL-CO-HOL Scoreboard -- As more activities were added to the Scoreboard, it became necessary to suggest specific procedures for awarding points. This has been done for the revised Module.

9. Statistics -- It was observed that very large numbers held little meaning for students. Thus, "50,000 annual traffic fatalities" was modified to "135 fatalities a day," and so forth.

10. Instructional Aids -- These originally were grouped in one appendix, and it was suggested by a sizable number of instructors that it would be more useful to have them placed in the lesson to which they applied. Consequently Appendix F was abandoned and the contents divided appropriately.

The discussion up to now has revealed that field-testing of the Module showed overall recognition of value and support from both instructors and students, as well as evaluations, comments and suggestions which led to corrections and revisions. However, more objective pre/post evaluations were sought, and these are discussed in the following section.

SECTION TWO: EVALUATION THROUGH *PRE/POST* TEST BATTERIES AT FIELD-TESTING SITES

Executive Summary

Problem

The Junior High School Module in Alcohol Education and Traffic Safety was developed through a process involving considerable professional and student inputs. Panels of experts reviewed objectives, content and organization, and the Module was extensively field-tested for value and practicality by instructors and students. However, for documentary evidence of effectiveness it was necessary to conduct an objective assessment of student change associated with the Module. Thus knowledge, attitude, and behavior assessments were applied within a carefully controlled experimental design to several thousand junior high school students in seven states.

Methodology

The sample--With a view toward generalizing the findings, a national sample (N=6136) was selected from eleven cities in seven states representing diverse geographical areas and population characteristics. The sample comprised an experimental group of 4671 students, and a control group of 1465. Both experimental and control groups were administered *pre/post* test batteries; only the experimental group was exposed to the Module. Forty five schools participated as follows: from California, 9; Florida, 4; Missouri, 4; New York, 12; Pennsylvania, 8; Oklahoma, 3; Virginia, 5. The sample selection procedure was designed to yield a sample representing a broad cross-section of schools in the respective states.

Instrumentation--The testing battery contained 132 items which measured 31 specific objectives -- 16 for knowledge, 9 for attitude, and 6 for behavorial intentions. In addition the battery contained an 8-item short-form lie scale. The battery was spread over four forms (A, B, C, D), each of which contained one item per objective and four items of the lie scale. The battery was developed through conventional item analysis techniques on 128 knowledge items administered to 450 students, and on 72 attitudinal and 48 behavorial intention items administered to 195 students. Through stratified random procedures items were distributed among forms (i.e., stratified by specific objective).

There are sixteen knowledge subscores, one for each of the sixteen knowledge objectives. These combine to form five knowledge general objective subscores and sum to yield a total score (the Knowledge Score), for a total of twenty-two knowledge measures. There are nine attitude subscores, one for each of the nine attitude objectives. These combine to form three attitude general objective subscores and sum to yield a total score (the Attitude Score), for a total of thirteen attitude measures. There are six behavior subscores, one for each of the six behavior objectives. These combine to form two behavior general objective subscores and sum to yield a total score (the Behavior Score), for a total of nine behavior measures. In addition, there is a single lie score.

Data Collection--Multiple matrix sampling procedures[1] were employed to collect the data. Multiple matrix sampling is a psychometric procedure in which a set of test items is subdivided randomly into subtests of items with each subtest administered to different subgroups of examinees selected at random from the examinee population. Although each examinee receives only a pro-

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[1]David M. Shoemaker. Principles and Procedures of Multiple Matrix Sampling. Cambridge, Massachusetts: Ballinger Publishing Company, 1973.

portion of the complete set of items, the statistical model employed permits estimates of the mean, variance, and frequency distribution of test scores which would have been obtained by testing all examinees on all items.

For the experimental sample, pretesting occurred immediately before the Module and posttesting immediately following the Module. *Pre/post* occurred at these same times for the control sample, but they were not exposed to the Module. As a test of the durability of program effects a second posttest was administered eight weeks after the initial posttest to about one fifth of the experimental sample.

Test forms were equally distributed among the subjects for the pretest. All subjects had a posttest form different from their pretest form. For those taking the second posttest the form was different from those of the two previous testing occasions.

Results

For the overall knowledge measure, the experimental sample as a whole showed significant improvement ($p < .001$) when compared to the control sample. The experimental sample went from a mean pretest knowledge score of 40.16 to 45.52 on posttest. Comparable figures for the control sample were 39.47 and 39.86. All five of the knowledge general objectives showed significant improvement at the .001 level for the total sample. For the sixteen specific knowledge objectives there was dramatic improvement on seven and considerable improvement on one; the remaining eight showed negligible change.

For the overall attitude measure, the experimental sample showed significantly better performance ($p < .001$) than the control sample. The change for the experimental sample was from a mean of 118.71 on the pretest to 123.97 on the posttest. The control sample yielded comparison values of 120.26

and 121.51, respectively. Two of the three attitude general objectives showed significant improvement ($p < .001$) for the total sample, but only one of the nine specific attitude objectives showed evidence of dramatic positive change for the entire sample.

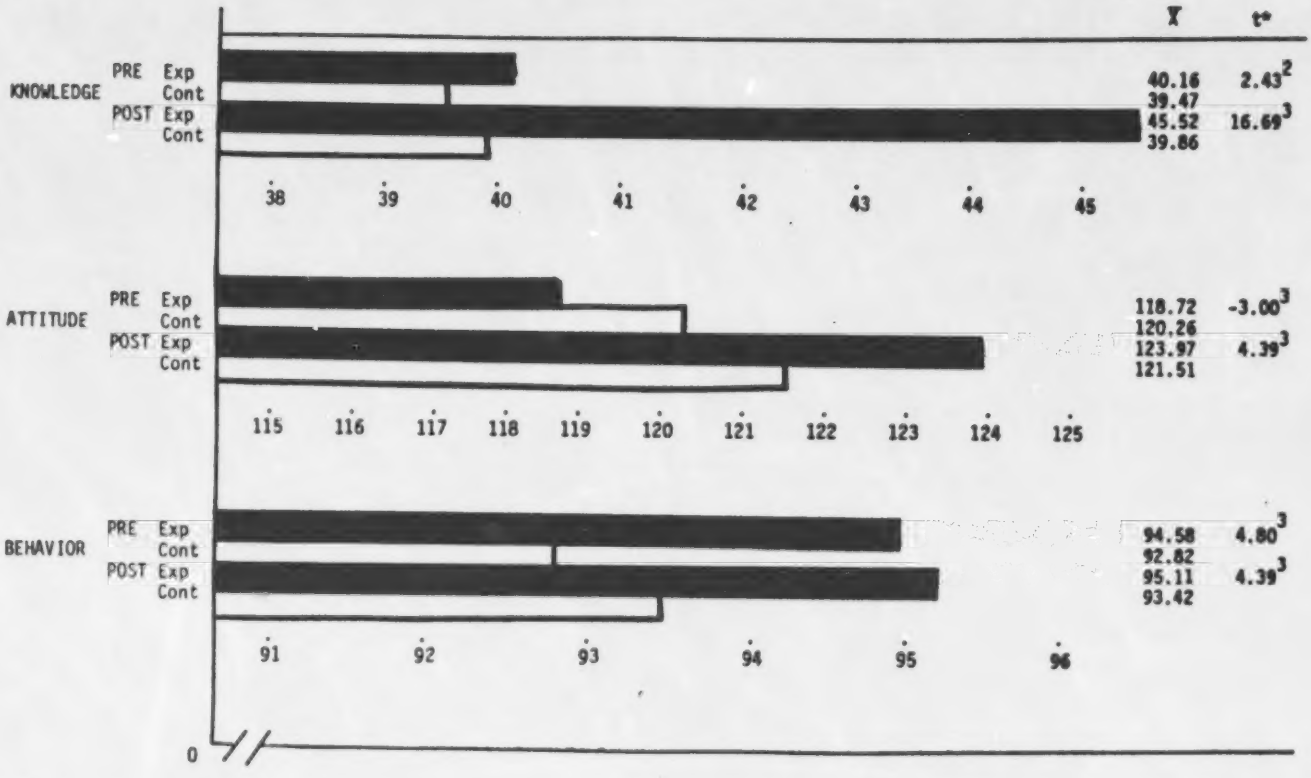
The overall behavior measure yielded disappointing results. For the sample as a whole, significant behavioral intention change could not be supported for the overall behavioral measure, the two behavioral general objectives, or for any of the six specific behavioral objectives.

These findings are summarized in Figure 1 (page 143).

As determined by these measures, the Module clearly was most effective in changing knowledge. Attitude was affected significantly, but to a lesser magnitude, and behavior was essentially unaffected.

Looking at the results by state provides further insights. Knowledge significantly improved in six of seven states (as well as overall). Attitude significantly improved in only two of seven states (but overall as well). Behavior improved significantly in two of seven states also, although it did not improve overall. For each of the five knowledge general objectives significant improvement occurred in from two to six states. For the three attitude general objectives, improvement was significant in one to two states. For the behavior general objectives, significant improvement was observed in one state for one objective and in three states for the other.

One fifth of the experimental sample was exposed to a second posttest eight weeks following the first to provide information on durability of change over time. The highly significant change which was found on the posttest for knowledge was continued at a comparable magnitude for the second posttest. However, the attitude and behavior measures showed a decline from the initial posttest. Thus only knowledge change seemed durable as measured by the test batteries.



[1] The first t for each measure compares pretest means; the second, posttest means.
[2] $p < .01$
[3] $p < .001$

FIGURE 1 Total scores on the measures for knowledge, attitude, and behavior taken by the total experimental (N=3,083) and control (N=895) samples for pretest and posttest administrations.

Overall the three-session field-testing version of the Module seemed to be functioning well in terms of knowledge gain. The less than optimal results in terms of attitude and behavior may be in part related to the Module's short duration. These results as well as teacher evaluations have been utilized to extend the Module from three to five lessons. Inasmuch as attitude and behavioral intention probably require considerable intensive reflection and consideration on the part of students to show change, it is possible that the five lesson Module outcomes will be enhanced.

Evaluation Through *Pre/Post* Test Batteries[1]

Problem

The Junior High School Module in Alcohol Education and Traffic Safety was systematically developed with the assistance of appropriate professionals. An extensive literature search and professional experiences of the investigators served as the beginning basis for writing objectives and content, and for selecting teaching techniques. These items were then systematically refined, clarified and rated by twenty-five recognized theoreticians in the field of curriculum development and alcohol education. Preliminary objectives, content or techniques for a preliminary Module were then rated for importance and practicality by 130 junior high school teachers.

A preliminary version of the Module emerged from the analysis of these inputs, and was implemented at two junior high schools in two states by four teachers with 270 students. Responses and comments from teachers and students were recorded, as were results from a formative *pre/post* evaluative instrument. In addition, teachers completed a comprehensive evaluation form eliciting comments on all aspects of the preliminary Module. These data were synthesized to prepare a field-testing version of the Module.

However, while the careful developmental process led those involved to believe the Module to be worthwhile, no hard data were available to answer the question, "What is the effect of the Module on students' knowledge, attitude, and behavior change relative to alcohol and traffic safety?" Theoretically, the Module seemed valuable. But to assemble empirical evidence bearing upon the research question, an objective assessment of the program's effectiveness was undertaken.

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[1]The authors are indebted to Dr. David M. Shoemaker of the Office of Education, U.S. Department of HEW for making available his multiple matrix sampling computer program, and to Thomas Blinn of the Teachers College Center for Computing and Information Management Services for Programming assistance.

Knowledge, attitude, and behavior assessments were applied within a carefully controlled experimental design to several thousand junior high school students in seven states.

Methodology

A description follows of the sample and its selection, instrumentation, research paradigm, training of teachers, data collection, and analysis of data.

Sample--With a view toward generalizability of findings, a national sample (N=6136) was selected from eleven cities in seven states representing diverse geographical areas and population characteristics. The sample comprised an experimental group of 4671 students, and a control group of 1465. Both experimental and control groups were administered *pre/post*-test batteries but only the former was exposed to the Module. A total of 45 schools participated, with each of the seven states contributing the following numbers: California, 9; Florida, 4; Missouri, 4; New York, 12; Pennsylvania, 8; Oklahoma, 3; Virginia, 5.

The sample selection procedure was designed to yield a sample representing a broad cross-section of schools in the respective states. This was accomplished with a stratified convenience procedure, i.e., potential cooperating schools were identified by representatives of the State Education Departments and affiliates of the American Automobile Association (AAA) in each of the cooperating states. Schools were selected to be as representative as possible of junior high schools in the school system. Accordingly public and private schools were chosen from urban and suburban/rural settings. A teacher (in some cases two teachers) was engaged from each of these schools and several of his or her regular classes were selected for the study. Several classes were used as the experimental sample, and one as a control sample, the teacher selecting the control in an attempt to make it representative of the total range of classes. Thus there was an attempt to eliminate bias in assigning to experimental and control samples, and equivalence can be reasonably assumed.

The following schools contributed to the sample pool:

Name of Junior High School	School Type	Number of Experimental Classes	Experimental Sample Size [1]	Control Sample Size [1]
	California (Glendale) Test Sites			
Wilson	Suburban	3	90	30
Clark	Suburban	3	100	50
Roosevelt	Suburban	3	90	30
Rosemont	Suburban	3	95	45
Toll	Urban	3	140	45
	California (Sacramento) Test Sites			
Albert Einstein	Suburban	2	70	35
Will C. Wood	Urban	3	90	30
Sutter	Urban	3	110	35
	Florida Test Sites			
Dowdell	Urban	4	150	35
Webb	Suburban	3	60	30
Madison	Urban	4	130	32
St. Patrick	Suburban	4	93	35
	Missouri Test Sites			
Ferguson	Suburban	4	130	35
Hancock	Suburban	4	130	35
East Ladue	Suburban	4	90	30
Kirby	Suburban	3	75	25

[1]Rounded-off estimates

(continued)

Name of Junior High School	School Type	Number of Experimental Classes	Experimental Sample Size	Control Sample Size
	New York (Metropolitan) Test Sites			
Isaac E. Young	Suburban	4	110	25
Our Lady of Mercy	Urban	3	120	40
Garden City	Suburban	5	110	25
IS 145	Urban	3	115	35
	New York (Syracuse) Test Sites			
Lincoln	Urban	4	140	45
Levy	Urban	3	90	30
Grant	Urban	4	80	15
H. W. Smith	Urban	2	60	30
	New York (Buffalo) Test Sites			
Herbert Hoover	Suburban	4	90	35
Cathedral	Urban	2	43	17
Southside	Urban	4	120	30
Maryvale	Suburban	4	120	35
	Oklahoma Test Sites			
Clinton	Suburban	4	134	27
Foster	Suburban	4	135	32
Anderson	Urban	4	121	29
	Pennsylvania (Philadelphia) Test Sites			
Enfield	Suburban	2	60	30
Association for Jewish Children	Urban	2	60	30
Agnes Irwin	Suburban	2	60	30
Nether Providence	Suburban	3	80	35

(continued)

Name of Junior High School	School Type	Number of Experimental Classes	Experimental Sample Size	Control Sample Size
	Pennsylvania (Pittsburgh) Test Sites			
St. John the Baptist	Suburban	3	90	35
Penn	Suburban	4	152	38
Seneca	Suburban	4	135	40
St. Joseph	Suburban	1	23	23
	Virginia Test Sites			
Norfolk Academy	Urban	4	84	21
Ruffner	Urban	4	125	35
Virginia Beach	Urban	4	135	30
Western Branch	Suburban	4	158	44
Churchland	Suburban	4	140	35

The above sites had approximately 5976 subjects available for the study, of which 4443 were experimental and 1433 control. However, due to subject loss at the individual sites due to absence, unusable papers, etc., data on a total of 5054 subjects (or 84.6% of the potentially available sample) were received by the investigators. Data analysis presented under results is based on 3978 subjects. The stepdown from 5054 to 3978 is described under analysis of data.

Instrumentation--The testing battery contained 132 items. This test measured the 31 specific objectives of knowledge (16 objectives), attitude (9 objectives), and behavioral intentions (6 objectives), and contained an 8-item short-form lie scale. The battery was spread over four forms (A, B, C, D) each of which contained one item per objective and four items of the lie scale. The battery was developed through conventional item analysis techniques on 128 knowledge items administered to 450 students, and 72 attitudinal and 48 behavioral intention items administered

to 195 students. Through stratified random procedures items were distributed among forms (i.e., stratified by specific objective).

There are sixteen knowledge subscores, one for each of the sixteen knowledge objectives. These combine to form five knowledge general objective subscores and sum to yield a total score (the Knowledge Score), for a total of twenty-two knowledge measures. There are nine attitude subscores, one for each of the nine attitude objectives. These combine to form three attitude general objective subscores and sum to yield a total score (the Attitude Score), for a total of thirteen attitude measures. There are six behavior subscores, one for each of the six behavior objectives. These combine to form two behavior general objective subscores and sum to yield a total score (the Behavior Score), for a total of nine behavior measures. In addition, there is a single lie score.

For each of the four instruments in the test battery will follow a more detailed account of the description, development, scoring, reliability and validity.

Knowledge

This measure is one of aptitude in the area of alcohol and traffic safety relating to the 16 knowledge objectives There are four items per objective. It was developed by first perusing existing knowledge measures in the area of alcohol and traffic safety and then organizing the items by objective,where possible. This procedure was also followed for available non-standardized measures. Additional items were created where necessary to bring the number available for any one objective to a minimum of eight. Items were then edited for clarity, brevity, duplication, and wording by a team of five specialists. This yielded a pool of 175 items, ranging from eight to seventeen items per objective. On the basis of professional judgment (the five specialists individually ranked all items within each objective according to their preference) two of the investigators selected

for tryout the eight most promising items for each objective and matched them (four each) to preliminary forms A and B, yielding two 64-item forms (see pages 181-192). Forms A and B were administered to 204 and 246 junior high school students from New Jersey and Long Island in December 1975. Internal consistency item-analysis was performed to ascertain item discrimination, difficulty level, and distractor function. An item analysis summary (corrected difficulty indices, point biserial correlations) is found for all items on pages 201-202. These data were used to select the four items per objective for the final battery on the basis of most favorable item characteristics. An attempt was made to get a spread on item difficulty and as high an item-test correlation as possible. The selected items have a mean corrected difficulty level of 43.2 with a range from 7 to 88. Biserial r's range from .15 to .68: one less than .20; 11 from .20 to .29; 23 from .30 to .39; 21 from .40 to .49; 7 from .50 to .59; and one over .60; the mean is .43. The developmental process with professional judges established a high degree of content validity through jury validation. There is also a high degree of face validity of items in relation to stated objectives. Estimates of reliability for the overall knowledge measure for the total sample were .77 on the pretest administration and .83 on the posttest administration. By state, these estimates ranged from .53 to .86 on the pretest and .81 to .89 on the posttest.

Scoring the Knowledge measure is accomplished by adding one point for each correct response. For each form, possible scores range from 0 to 16. The scoring key for the sixteen knowledge items in each form, and the associated objectives, appears on page 205. Detailed scoring instructions appear for the test battery on pages 241-242.

Attitude and Behavior

These two measures are summated rating scales, the first relating to the nine attitudinal objectives, the second to the six behavioral intention objectives. They were both developed using Likert scaling procedures. As with the Knowledge measure, the first step in their development was the perusal of available measures for items. All items were written as declarative statements, following the general guidelines outlined by Edwards[1], and having five position response options -- strongly agree, agree, not sure, disagree, strongly disagree. A balance of positively and negatively stated items was sought. Items were then organized by objective, and new items were created where necessary to bring the minimum number of items per objective to eight. After editing by five specialists each specialist ranked items within each objective by preference. The eight most promising items for each objective were selected from the item pool for tryout, yielding a preliminary test of 120 items, to which an eight item short-form lie scale (pages 154-155) was added. The lie scale was adapted from the Crowne-Marlow scale of social desirability. The 128-item preliminary form (which appears on pages 193-200) was then administered to 195 junior high school students from New Jersey and Long Island in April 1976. In this group, all had lie scores below 32 (range was 12-31, mean 21.82), so all were retained for attitude and behavioral intention item analysis. Attitude item analysis was performed by first recoding the responses of a number of items to make scale direction consistent. Scores were then computed for the 72-item preliminary attitude measure (range was 101-219, mean 161.48), rank ordering subjects by score, taking the "low" reference group (bottom 27%, score range 101-149) and the "high" reference group (top 27%, score range 176-219).

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[1]Allen L. Edwards, Techniques of Attitude Scale Construction, New York: Appleton-Century-Crofts, 1957.

and performing t-tests between these groups for each item. Similar item analysis was performed for the 48-item preliminary behavioral intention measure. In this case, scores ranged from 81-170 with a mean of 124.76 (the "low" reference group ranged from 81 to 117; the "high" reference group from 133 to 170). For each of the nine attitude and six behavioral intention objectives, the four items with the highest t values were selected for inclusion in the final battery. The items selected for the attitude measure have a mean t value of 5.96, with a range from 1.37 to 10.53: one below 2.00; seven from 2.00 to 4.99; nineteen from 5.00 to 6.99; nine over 7.00. The items selected for the behavior measure have a mean t value of 5.82, with a range from 3.19 to 8.96; three from 3.19 to 3.99; eight from 4.00 to 5.99; nine from 6.00 to 6.99; four over 7.00. These data appear on page 204, which also shows the t values of items associated with each specific and general objective. Estimates of reliability for the overall measure of attitude for the total sample were .79 on the pretest administration and .86 on posttest. Comparable values for the overall behavior measure were .71 and .79. Reliability estimates for attitude by state ranged from .73 to .85 for the pretest administration, .82 to .89 for posttest. Comparable figures for behavior were .63 and .85 pretest, and .78 to .87 for posttest.

Items in both the attitude and behavioral intention measures possess face validity. Content validity was also established by the developmental process utilizing professional judgment.

Scoring the attitude and behavior measures is accomplished by adding the keyed value (from one to five) associated with the response to each item after reversing the scoring (1=5, 2=4, 4=2, 5=1) for certain items to make scale direction consistent. For each of the test forms, items not responded to are coded "3" (the neutral value). Attitude scores can range from 9 to 45,

behavior scores from 6 to 30. The scoring key for the nine attitude items and six behavior items in each form (including information as to which items require reverse scoring), and associated objectives, appears on page 205. Detailed scoring instructions appear for the test battery on pages 242-244.

Lie Scale

This measure attempts to identify subjects who describe themselves in favorable, socially desirable terms in order to receive the approval of others. Since the attitude and behavior scales can be "faked" by giving a socially desirable response instead of a "true" response, the lie scale can be used for discovering subjects tending not to answer those scales honestly and treating the data they provide accordingly. The knowledge measure is not affected.

The lie scale comprises eight items selected from the 33-item Crowne-Marlow Scale of Social Desirability.[1] The original Crowne-Marlow scale items were selected from various inventories and administered to 332 college students and 232 psychiatric patients and prisoners. Reliability using KR-20 was .88. Validation was achieved through review by experienced judges. The eight items of the lie scale were chosen and used by Mascoll[2] because they seemed appropriate for the experiences of eighth graders. Lie scale items were distributed among the items in the attitude and behavior section so as not to be conspicuous, and given a five-point summated rating format. As used in this study, each test form contained four items of the scale. Scoring was accomplished by summing the responses to the eight items (four on the pretest and four on the posttest)

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[1]John P. Robinson, Measures of Social Psychological Attitudes: Appendix B to Measures of Political Attitudes, Ann Arbor, Michigan: Institute for Social Research, August, 1969, pp. 640-645.

[2]Shirley Howell Mascoll, The Effect of Alcohol Education Programs on the Knowledge, Attitudes, and Intended Behavior of Eighth Grade Students. Unpublished doctoral dissertation, Teachers College, Columbia University, 1976.

after reversing the coding (5=1, 4=2, 2=4, 1=5) of certain items to make scale direction consistent. Items not responded to were coded "3" (the neutral value). Possible scores could range from 8 to 40. If a subject tended to choose socially desirable responses, it may be posited that a value of "4" or "5" would have been chosen for each lie item. An average response of "4" would yield a lie score of 32. Thus 32 was arbitrarily chosen as the cut-off point for establishing that a subject might be masking his true attitude and behavioral intentions in this study.

Research Paradigm--This study was made in intact classes at various schools. Each teacher in the study had up to three experimental classes and one control class. There was an attempt to select classes in such a way that experimental and control groups would be comparable, although the necessity of using intact classes precluded the possibility of assembling experimental and control groups randomly from a common population.

Both groups were exposed to pre- and post-test measurements; the experimental group was also exposed to the Module; the control group was not. Campbell and Stanley[1] describe this design as a nonequivalent control group design and discuss its merits for research purposes. Of the eight potential sources of jeopardy to internal validity they discuss, this design controls the effects of six, namely those of history, maturation, testing, instrumentation, selection, and mortality. Of the two possibly uncontrolled by this design -- regression effects, and interaction effects of selection and maturation -- it should be fairly clear that such effects would probably not be operating in such a study, inasmuch as comparison groups were not chosen on the basis of extreme scores, and the selection

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[1]Donald T. Campbell and Julian C. Stanley. Experimental and Quasi-Experimental Designs for Research, Chicago: Rand McNally Publishing Company, 1963, pp 47-50.

process, while not random, might for practical purposes be assumed to be (and in which case, these additional two effects become of little concern).

The testing package was administered immediately before the Module. Posttests occurred immediately after the Module for the experimental sample, and at the same time for the control sample (not exposed to the Module).

The design was refined by having a fifth of the experimental sample take a second posttest eight weeks after the first posttest to determine durability of program effects.

This paradigm may be illustrated as follows:

E_1 O_1 X O_4

E_2 O_2 X O_5 O_7

C O_3 O_6

where E_1 = Experimental Group 1 (Immediate Posttest)

E_2 = Experimental Group 2 (Immediate and Delayed Posttest)

C = Control Group

O_1, O_2, O_3 = Pretests for E_1, E_2, and C, respectively

X = The Module

O_4, O_5, O_6 = Posttests immediately following Module for E_1, E_2, and C respectively

O_7 = Second posttest 8 weeks following Module for E_2

Training of Teachers--For each of the 45 schools cooperating in the study, one teacher (in a few cases, two teachers) took part. Some teachers had volunteered while others were appointed by their appropriate supervisors. All teachers underwent a standard training workshop to prepare them to teach the Module in their respective schools.

In preparation for the workshop, teachers were sent a complete field-testing version of the Module including *pre/post* test batteries and a description of evaluation procedures to peruse prior to their workshop date.

Workshops lasted from 9:00 am to 3:00 pm, including a coffee break and a lunch period. Participants were filled in on the background and development of the field-testing version of the Junior High School Module on Alcohol Education and Traffic Safety. The purposes of field-testing and the teachers' role in it were emphasized along with the format and teaching techniques of the Module. Teachers then became actual participants in the Module, role-playing as students, with one of the investigators acting as teacher. Reactions, questions and comments from the teachers were received throughout the presentation. After the presentation, the plans for evaluation which included teacher evaluation forms, student evaluation forms, and *pre/post* test batteries were discussed. Data coding procedures, to preserve anonymity of students, were explained.

All materials needed to implement the Module were distributed to the teachers before they left and arrangements for rotating those in short supply, such as films, were made between the teachers and the AAA representative.

Data Collection--Multiple matrix sampling procedures[1] were employed to collect the data for this study. Multiple matrix sampling is a psychometric procedure in which a set of test items is subdivided randomly into subtests of items with each subtest administered to different subgroups of examinees selected at random from the examinee population. Although each examinee receives only a proportion of the complete set of items, the statistical model employed permits

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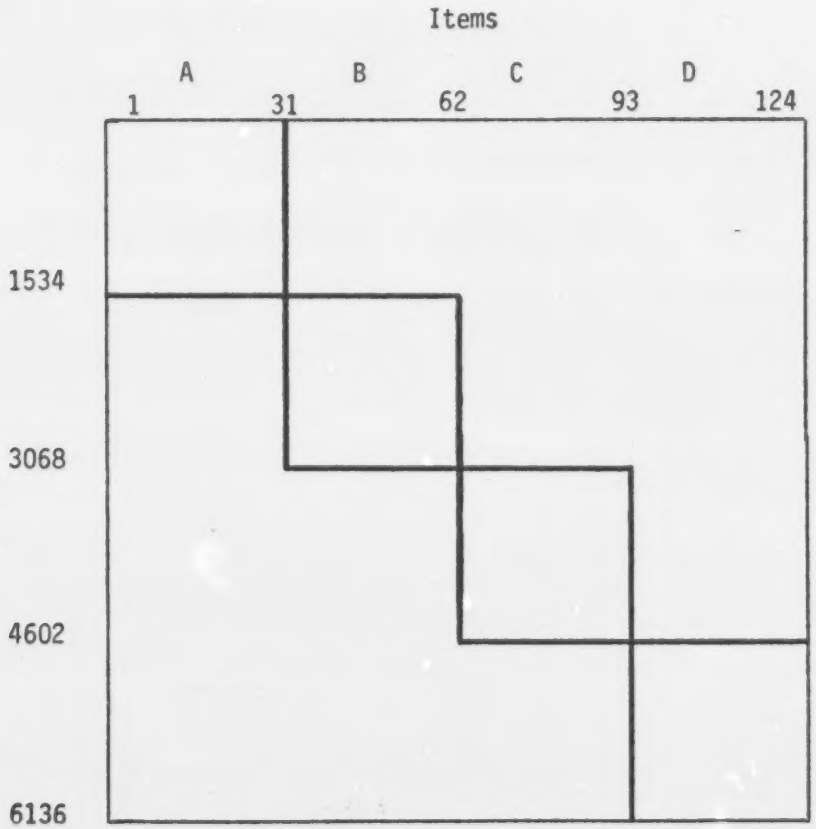
[1]David M. Shoemaker. Principles and Procedures of Multiple Matrix Sampling. Cambridge, Massachusetts: Ballinger Publishing Company, 1973.

estimates of the mean, variance and frequency distribution of test scores which would have been obtained by testing all examinees on all items.

In this study, the testing package was administered immediately before the Module. Posttesting occurred immediately following the Module for the experimental sample, and at the same time for the control sample (not exposed to the Module). A refinement of the experimental procedures involved the administration of a second posttest eight weeks after the initial posttest for about a fifth of the experimental sample as a test of the durability of program effects.

Test forms were equally distributed among the subjects for the pretest. All subjects had a different form on the posttest from that which they responded to on the pretest. Those taking the second posttest were given a form different from either of those taken on the previous two testing occasions.

The distribution of persons and test forms may be diagrammatically represented as follows:



Thus a different set of 31 items, i.e., a different form, were administered to a different 1534 students (i.e., 1168 experimental, and 366 control). This was effected using the following protocol: an individual package (the material handed to the student) comprised two forms: AB, BC, CD, or DA. The first form of each package was the student's pretest, and second form the posttest. (In schools where post posttesting was to occur, an individual package comprised three forms: ABC, BCD, CDA, or DAB. The first form of each package was the student's pretest, the second form the posttest, and the third form the post posttest). The four packages were then collated in systematic order (i.e., AB, BC, CD, DA, AB, etc.) for distribution. This setup assured that each student would receive a different *pre* and *post* form, and also assured random distribution of the four forms. Note that this distribution of test forms assured that the students responding to the 31 items of Form A were spread over all schools. This same sampling pattern also applied for the *post* administration, and was true for control sample *pre* and *post* administrations as well.

For the final usable sample, the distribution of test forms was determined for both the pretest and posttest. Each of the four forms was taken by between 24.3% and 25.4% of the sample on both pretest and posttest administrations. This demonstrated that the setup was successful in achieving equality of test form distribution; for practical purposes, distribution can be considered random.

The distribution of test forms for the usable sample appears for the pre- and post-test administrations in Table I (page 160).

DISTRIBUTION OF TEST FORMS FOR THE USABLE SAMPLE FOR PRETEST AND POSTTEST ADMINISTRATIONS, IN FREQUENCY AND PERCENT

Form	Pretest		Posttest	
	f	%	f	%
A	1026	25.2	991	24.3
B	1032	25.3	1026	25.2
C	1026	25.2	1037	25.4
D	991	24.3	1021	25.1
Total	4075	100.0	4075	100.0

The testing package was administered immediately before the Module. The students put their names on both forms (or code numbers were used where anonymity was necessary) and the second (and third, where applicable) form(s) was (were) immediately collected and stored. These were used after the Module for the posttests. The students then completed the pretest. Posttests were administered at the appropriate time in relation to the Module. Completed materials were organized by the teachers and sent to a central point for inspection, key-punching, and analysis. Teachers received detailed written instructions concerning their role in data collection, and how the various forms were to be administered, collated, etc. (see pages 219-223).

Analysis of Data--Before data analysis could proceed, data checking was necessary. The first task was to collate *pre*- and *post*-test materials for each subject. Despite the written instructions which all teachers received, the majority did not do their own collating locally. Rather, batches of pretests were sent in independently of posttests, and the latter were sent in after they were collected. In some cases the subjects were identified by name, and in other

cases subjects were identified by an anonymous code as per instructions, but in some cases the coding procedure which was set up was not strictly adhered to. As a result -- with packages of forms arriving by mail over a five month period (March 1977 - July 1977) and some giving no clue as to the sending site and others combining several sites -- the collation task became substantially more difficult than anticipated. Further, it became apparent that there were numerous subjects for whom either the pre or post test was missing, most often because they were absent on one of the testing days.

In other cases, presumably due to an administrative foul-up, pre- and post-tests with the same identifying code number did not match (as determined by comparing handwriting on item 36). In some of these cases, it was possible to find a match and modify code numbers accordingly. In others, it appeared to be impractical to try and find match-ups.

Since it had been decided from the outset to restrict analysis to subjects for whom complete pre- and post-test data had been collected, those for whom a pre- or post-test was missing, or could not be matched, were deleted from the study. After all data from a given site had been received and manually collated, and after forms without a match were deleted, a perusal of remaining forms was made. Each test form was carefully inspected to determine if it was usable. Unusable forms were defined as those for which half of a form was left blank, or where responses were illegible and/or uninterpretable, or where directions were obviously not followed (e.g. written responses to the attitude/ behavior scales which could not be reliably translated into the 5-point rating scale). These forms were pulled and added to those deleted for having no match. Usuable forms were then numerically ordered, and prepared for keypunching.

From this data checking process, the data received on 5054 subjects was reduced to that for 4075 subjects. Thus, 80.6% of the sample provided usuable data. The stepdown from 5054 to 4075 is detailed by site in Table II.

After data were keypunched and verified, the next step was computing the lie score for each subject. Those with scores of 32 or higher were deleted from the study. On this basis, an additional 97 subjects (2.4%) were dropped from further analysis. This left as the final sample size, and that on which all results presented in the next section are based, a count of 3978, of which 3083 were experimental subjects, and 895 control.

At this point the actual analysis relating to the research question was performed. Data were analyzed using an existing multiple matrix sampling computer program after making necessary modifications.

Mean scores were computed for each specific objective on both pre and post measures (ranging from 0 to 4 for knowledge, and 4 to 20 for attitude and behavioral intentions) for both experimental and control samples. Mean scores were also computed for all ten general objectives and for the overall scores for knowledge, attitude, and behavioral intention (computed by summing appropriate specific objectives). These were computed for both pre and post measures for both experimental and control samples and a test of significance of the difference between experimental and control samples was performed for both pre and post measures using a t-test.

All of the foregoing analyses were performed for each of the seven states as well as for all states combined.

TABLE II

NUMBERS OF UNUSABLE AND USABLE SUBJECTS FOLLOWING INSPECTION OF DATA FROM 5054 SUBJECTS RECEIVED FROM THE STUDY SITES

State	Site	Unusable N	Usable N	State	Site	Unusable N	Usable N
CA	1	11	67	OK	1	23	125
	2	20	62		2	31	112
	3	25	85		3	19	119
	4	16	94				
	5	14	83				
	6	2	98	PA	1	7	60
	7	14	65		2	5	40
	8	12	106		3	55	35
					4	3	59
					5	0	0
FL	1	58	95		6	0	0
	2	20	94		7	0	107
	3	6	151		8	55	145
	4	0	0				
				VA	1	25	82
MO	1	5	114		2	38	87
	2	22	115		3	32	154
	3	0	88		4	12	187
	4	0	95		5	4	120
NY	1	21	102				
	2	16	131				
	3	4	106	Unidentified		272	1
	4	25	108				
	5	30	108				
	6	14	56				
	7	5	119				
	8	18	122	Total for all sites combined		979	4075
	9	1	140				
	10	2	105				
	11	20	75				
	12	17	58				

Results

The results in relation to the overall measures, the ten general objectives, the specific objectives for knowledge, attitude, and behavioral intention and the post-posttest for the overall measures will be described in the following pages.

Overall Knowledge, Attitude, and Behavioral Intention--For the overall knowledge measure, the experimental sample as a whole improved significantly ($p < .001$) when compared to the control sample. The experimental sample went from a mean pretest Knowledge Score of 40.16 to 45.52 on the posttest measure. Comparable figures for the control sample were 39.47 and 39.86, respectively. The 5.36 gain for the experimental sample (vs. 0.39 for the control sample) represents an increase of about three fourths of a standard deviation, which is a fairly substantial change. By state, knowledge showed significant improvement in six of the seven states. The gain scores for the experimental sample (vs. control) were 6.67 (vs. 0.40) in California; 3.62 (vs. 0.98) in Florida; 3.43 (vs. 0.03 in Missouri; 6.42 (vs. 1.13) in New York; 7.13 (vs. -0.51) in Oklahoma; 5.87 (vs. -0.29) in Pennsylvania; and 3.66 (vs. 0.80) in Virginia. The gain in Oklahoma was a full standard deviation. Standard deviations ranged from about 5.0 to about 10.5 over all administrations. Improvement was statistically significant for all states except Florida. Thus the overall Knowledge measure provides rather convincing evidence of Module effectiveness.

For the overall attitude measure, the experimental sample as a whole improved significantly ($p < .001$) when compared to the control sample, although the magnitude of this change is unimpressive. The pretest mean Attitude Score was 118.72 for the experimental sample vs. 123.97 on the posttest administration. Comparable control sample values were 120.26 and 121.51, respectively. The 5.25 gain score for the experimental sample (vs. 1.25 for the control sample) represents an increase of less than a third of a standard deviation, and thus the magnitude

of this change is probably only borderline in terms of being of practical importance. By state, attitude showed significant improvement in two of the seven states. The gain scores for the experimental sample (vs. control) were 0.64 (vs. 2.36) in California; -5.73 (vs. -4.75) in Florida; 0.28 (vs. -0.21) in Missouri; 6.16 (vs. 3.12) in New York; -1.08 (vs. -5.07) in Oklahoma; 2.84 (vs. -6.15) in Pennsylvania; and -2.03 (vs. -3.12) in Virginia. Only New York and Pennsylvania showed reasonable statistical significance. Missouri also satisfied the test of statistical significance: pretest scores were not significantly different ($t=1.85$) and posttest were ($t=2.08$, $p < .05$). However, the experimental group's pre/post nominal gain (0.28) argues for considering the difference more as a statistical artifact than real. Pennsylvania's improvement (representing only about a sixth of a standard deviation) was occasioned more by the decrement in the control sample than in the increment in the experimental sample. Thus the attitude measure provides only marginal evidence of Module impact.

The overall behavior measure was the least influenced of the three overall measures. The experimental sample as a whole showed no change on this measure when compared to the control sample. The mean Behavior Score went from 94.58 to 95.11 for the experimental sample for the pretest to posttest administrations; these figures were 92.82 and 93.42 for the control sample, respectively. They reflect gain scores of 0.53 for the experimental sample, and 0.60 for the control sample, showing no change at all against a standard deviation of about 10. By state, behavior showed significant improvement in two of the seven states, and a significant worsening in one state, although these findings need amplification. The change scores for the experimental sample (vs. control) were -0.81 (vs. -4.18) in California; -4.98 (vs. -5.32) in Florida; 4.08 (vs. 2.17) in Missouri; 7.11 (vs. -1.94) in New York; -1.89 (vs. -5.62) in Oklahoma; 1.25 (vs. -2.36) in Pennsylvania; and -5.96 (vs. -1.46) in Virginia. New York and Pennsylvania

show significant improvement with these data; Virginia a significant decline. The experimental group in California also met the criterion for statistical significance by performing better than the control group, but inasmuch as the change was negative for both samples, not much can be said. The New York improvement is the only definitive case, with a gain score of over three fourths of a standard deviation. The Pennsylvania improvement should be interpreted guardedly, and is somewhat an artifact stemming from the control sample's decline. The experimental sample's gain is only about an eighth of a standard deviation; not enough to be of any practical importance. The Virginia decline of about three fifth of a standard deviation is not readily explained and is probably an artifact. Taken as a whole, the overall behavior measure provides no evidence of Module effectiveness.

A summary of the findings of the overall measures of knowledge, attitude, and behavior for the sample as a whole appears in Figure 1 on page 143. A detailed tabulation of mean, variance, standard error, reliability of measure, and t-test results for pre- and post-test comparisons for experimental and control samples overall and by state appears on page 224.

General Objectives--For all states combined, performance on seven of ten general objectives showed significant improvement ($p < .001$) following the Module, when the experimental sample was compared to the control sample. This was true for all five of the knowledge general objectives, for two of the three attitude general objectives, and for none of the behavior general objectives. These findings are summarized in Figure 2 (page 168).

General Objective 1 showed dramatic evidence of improvement for the overall sample. The experimental sample went from a pretest mean score of 9.80 to a posttest mean of 11.09. Comparable control sample means were 9.73 and 9.39,

respectively--gain scores of 1.29 for the experimental sample and -0.34 for the control sample. The improvement for the experimental sample represents a gain of about two thirds of a standard deviation, an important change. By state, significant improvement was noted for six of the seven; only Florida did not show significant improvement.

For General Objective 2, the experimental sample's mean went from 5.42 pretest to 6.60 posttest, while the control sample showed 5.29 to 5.43. The gain score of 1.18 for the experimental sample (vs. 0.14 for the control sample) represents two-thirds of a standard deviation, a highly significant improvement. By state, improvement was significant for five of the seven -- all except Florida and Virginia.

For General Objective 3, mean scores went from 12.21 on the pretest to 14.57 on the posttest for the experimental sample; comparable control sample means were 11.91 and 12.31, respectively. The 2.36 gain score for the experimental sample (vs. 0.40 for the control sample) is almost a standard deviation, which is a dramatic improvement. Five of the seven states showed significant improvement; Florida and Missouri did not.

For General Objective 4, the pretest mean was 4.12 for the experimental sample, while the posttest mean was 4.71. The control sample's mean was 3.99 pretest and 4.18 posttest. The 0.59 gain for the experimental sample (vs. 0.19 control) is about a third of a standard deviation. The magnitude is statistically significant but borderline for showing improvement. Only two of the seven states, California and Oklahoma, showed significant improvement for this objective.

For General Objective 5, the experimental sample's pre to post gain was 0.51 with means of 8.62 and 9.13, respectively. Corresponding control sample figures were 0.00 gain with both means at 8.56. While the improvement is

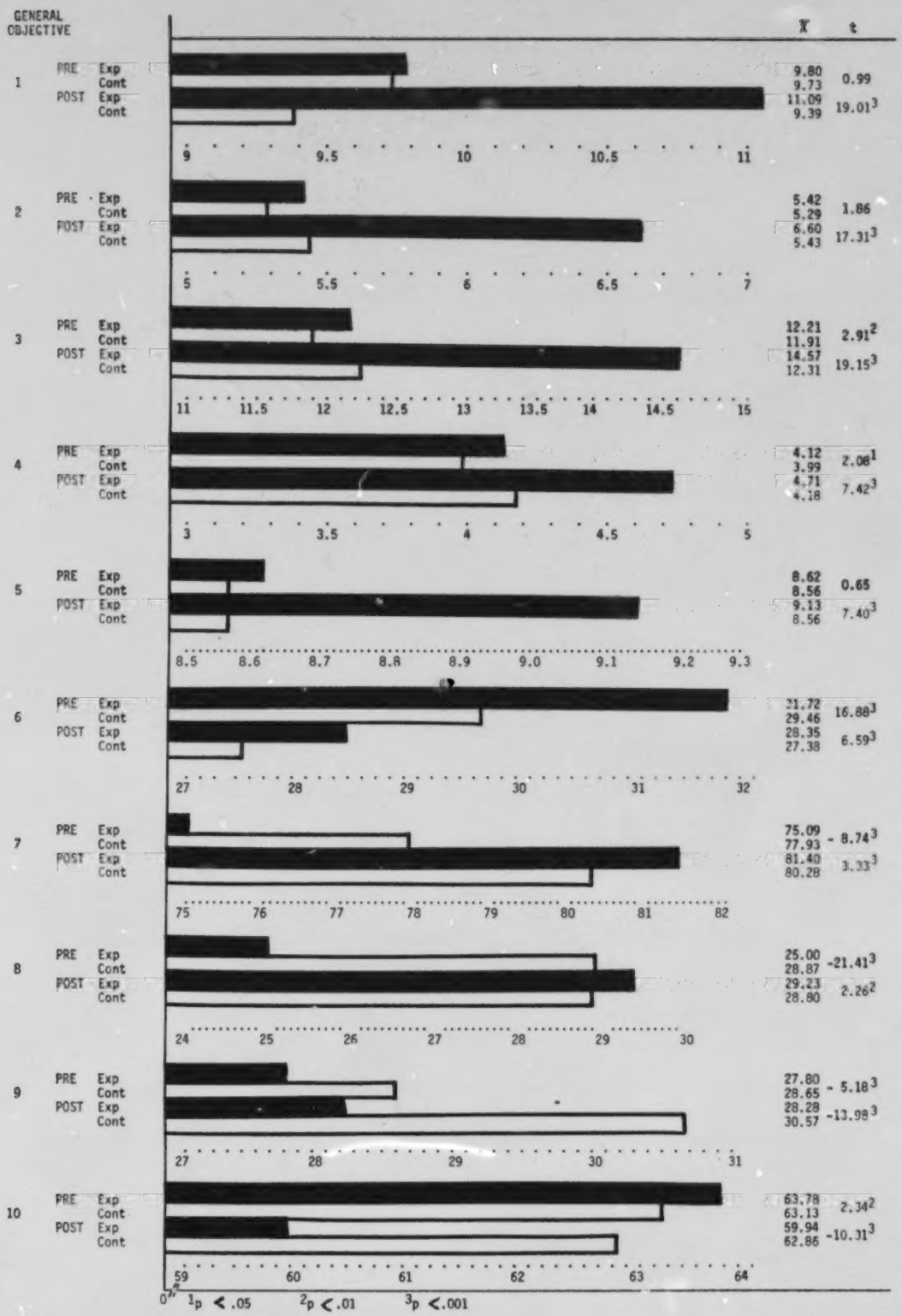


FIGURE 2--Mean Scores on General Objectives 1-10 for both experimental (N=3,083) and control (N=895) samples for both pretest and posttest administrations.

statistically significant, for it represents less than a fourth of a standard deviation and is therefore of little practical importance. California, Missouri, Oklahoma and Pennsylvania showed significant positive change when experimental samples were compared with control.

General Objectives 6 through 8 related to attitude. For General Objective 6, there was no significant improvement for the experimental sample as a whole. In fact, both the experimental and control samples declined from pre- to post-test administrations. There was, however, significant improvement for 2 states, Missouri and Pennsylvania. For Virginia, there was a significant decline, but inspection of pre and post means for both samples suggests that this finding was an artifact.

For General Objective 7, the pretest mean score for the experimental sample was 75.09 while the posttest mean was 81.40. Comparable control sample means were 77.93 and 80.28, respectively. The experimental gain score of 6.31 (vs. 2.35 for the control sample) represents about two thirds of a standard deviation, a significant improvement. By state, only Pennsylvania showed significant improvement, although the difference is apparently due more to the control group's decline than to the experimental group's gain; the difference, while statistically significant, does not seem important. Oklahoma's experimental group performed significantly better than its control group. However since both changes were declines, the difference once again does not seem important. In California, the control group did significantly better than the experimental group, but this appears to be a statistical artifact.

For General Objective 8, significant improvement was found overall. The experimental sample went from a pretest mean score of 25.00 to 29.23 on the posttest, for a gain of 4.23 (almost a full standard deviation). Comparable mean

scores for the control sample were 28.87 and 28.80, respectively, for a gain of -0.07. By state, only New York showed significant improvement, but this may be an artifact. Missouri showed a significant worsening, and no obvious explanation is forthcoming.

General Objectives 9 and 10 relate to behavior. For General Objective 9, there was no significant improvement overall. But for California, Missouri, Oklahoma, and Pennsylvania, significantly better performance was noted for the experimental sample when compared to the control sample. However, Missouri change scores are negative for both samples, and so this should not be interpreted as improvement. Further, improvement for California and Oklahoma, while statistically significant, seems too small to be of real importance. Only Pennsylvania's improvement seems to provide evidence of the Module's effectiveness.

For General Objective 10, there was a significant decline overall, which was probably an artifact. Experimental sample means went from 63.78 pretest to 59.94 posttest. Comparable control sample means were 63.13 and 62.86, respectively. The -3.84 change score for the experimental sample (vs. -0.27 control) represents about one-half of a standard deviation. By state, New York showed a significant worsening, while Pennsylvania's experimental sample significantly improved, relative to the control sample. Both of these findings seem unimportant.

A detailed tabulation of mean score, variance, standard error, reliability of measure, and t-test results for pre- and post-test comparisons for General Objectives 1-10 for experimental and control samples overall and by state appear on pages 225-228.

Specific Knowledge Objectives -- For the 16 specific knowledge objectives there was rather dramatic improvement on seven; evidence of lesser improvement on one; the remaining eight showed negligible change. These results are presented for the overall sample in Figure 3 (page 171).

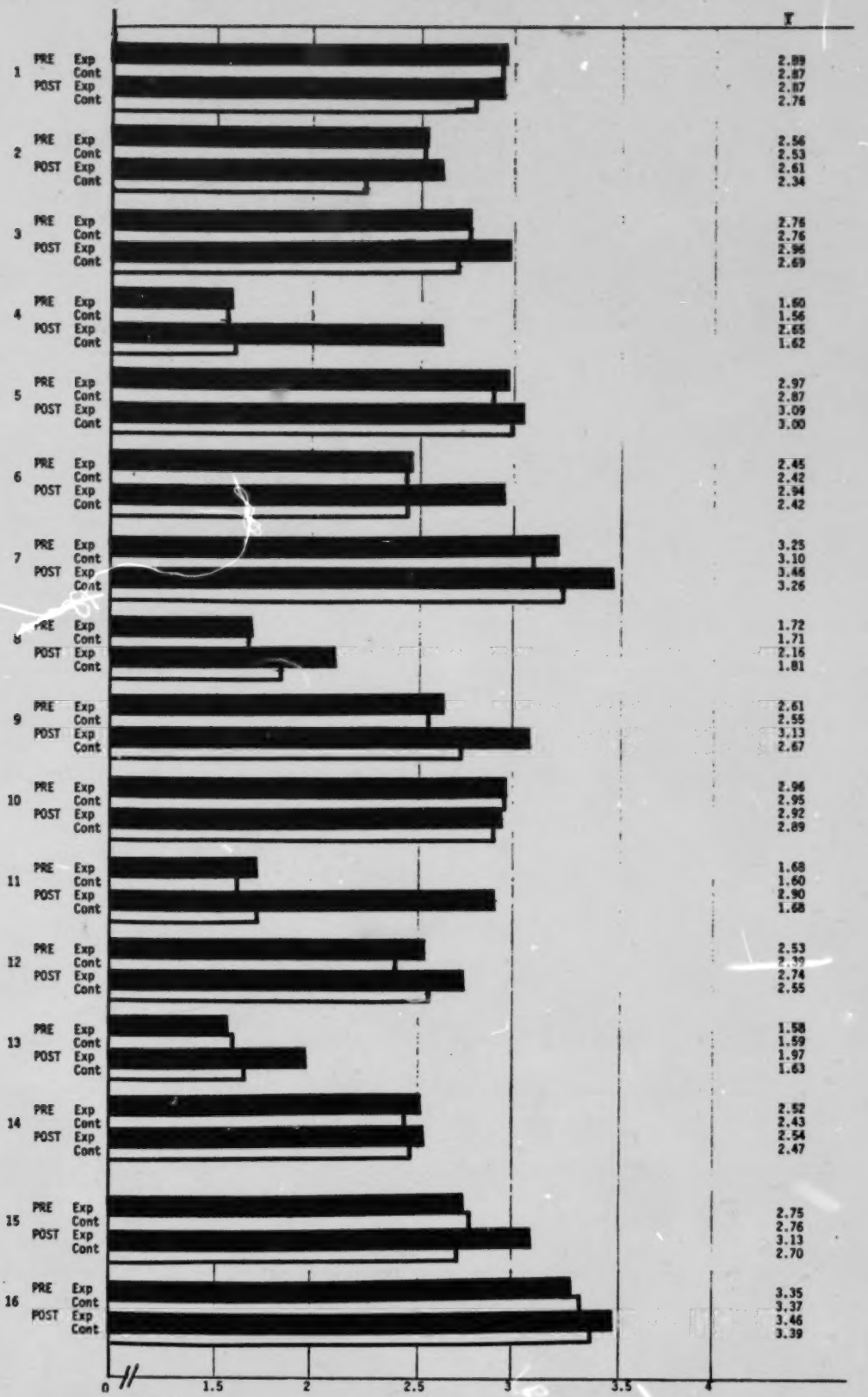


FIGURE 3--Mean scores on specific knowledge objectives 1-16 for both experimental (N=3,083) and control (N=895) samples for both pretest and posttest administrations.

Knowledge objectives 1, 2, 5, and 10 showed essentially no change, overall or by state. Apparently these objectives were not sufficiently covered in the Module, or else the items comprising these measures were not sensitive to the kinds of changes that might have occurred, or both.

Knowledge objectives 7, 12, 14, and 16 showed essentially no change overall, but did give some indications of impact in one or more states. For objective 7, two states (New York and Pennsylvania) showed a tendency for experimental samples to improve to a greater degree than control samples. The same tendency was observed for Missouri on objective 14 and Oklahoma on objective 16. For objective 12, while Pennsylvania showed this tendency, two other states (New York and Oklahoma) gave dramatic evidence of Module effectiveness.

Knowledge objective 3 gave some indication of impact both overall as well as for 3 states (California, New York, and Pennsylvania).

The remaining 7 objectives (numbers 4, 6, 8, 9, 11, 13, and 15) showed improvement rather dramatically when the experimental sample was compared to the control sample. The evidence of Module impact was most striking for objectives 4 and 11. In these instances, substantial visible difference was observed between experimental and control samples for all seven states as well as overall. For objective 4, overall experimental means went from 1.60 pretest to 2.65 posttest, with comparable control means being 1.56 and 1.62. For objective 11, these same means were 1.68 and 2.90 for experimental, and 1.60 and 1.68 for control. For objectives 4 and 11 by state, differences are similarly striking. Objectives 6, 8, 9, 13, and 15 share in common the fact that rather clear differences between experimental and control samples are observed for several states as well as for the composite. Objective 6 pre-post means go from 2.45 to 2.94 for the overall experimental sample (vs. 2.42 to 2.42 for control). All states except Florida

and Virginia provide similarly positive findings. Objective 8 pre-post means go from 1.72 to 2.16 for the overall experimental sample (vs. 1.71 to 1.81 for control). California, New York, and Virginia provide comparably convincing data. Objective 9 pre-post means go from 2.61 to 3.13 for the overall experimental sample (vs. 2.55 to 2.67 for control). All states except Florida and Missouri show similar levels of positive change. Objective 13 shows a pretest mean of 1.58 for the overall experimental sample (vs. 1.59 control) and a posttest mean of 1.97 (vs. 1.63 control). All states except New York offer similarly dramatic documentation of Module impact. And the overall experimental sample had a pretest mean of 2.75 on objective 15 (vs. 2.76 control), contrasted to a posttest value of 3.13 (vs. 2.70 control). Except for Missouri and Virginia, the remaining states similarly had pre and post means which clearly reflected Module success.

For a complete tabulation of pre- and post-test means and standard errors for knowledge objectives 1-16, for both experimental and control samples overall and by state, see pages 229-230.

Specific Attitude Objectives -- For the nine specific attitude objectives, there was only one that presented some evidence of positive change for the total experimental sample. For objective 25 the overall experimental sample moved from a pretest mean score of 12.38 to a posttest score of 15.46, while the control sample moved from 14.21 to 12.44. The remaining eight showed negligible change. These results are summarized for the overall sample in Figure 4 (page 174).

Objectives 17 through 24 showed essentially no change for the overall sample. This could have been the result of a deficiency in the Module or in the measuring instruments (or in both). Theoretically, attitude is more difficult to influence than knowledge, and a Module of such short duration may have relatively little impact on attitudes. It is also possible that attitude changes did occur,

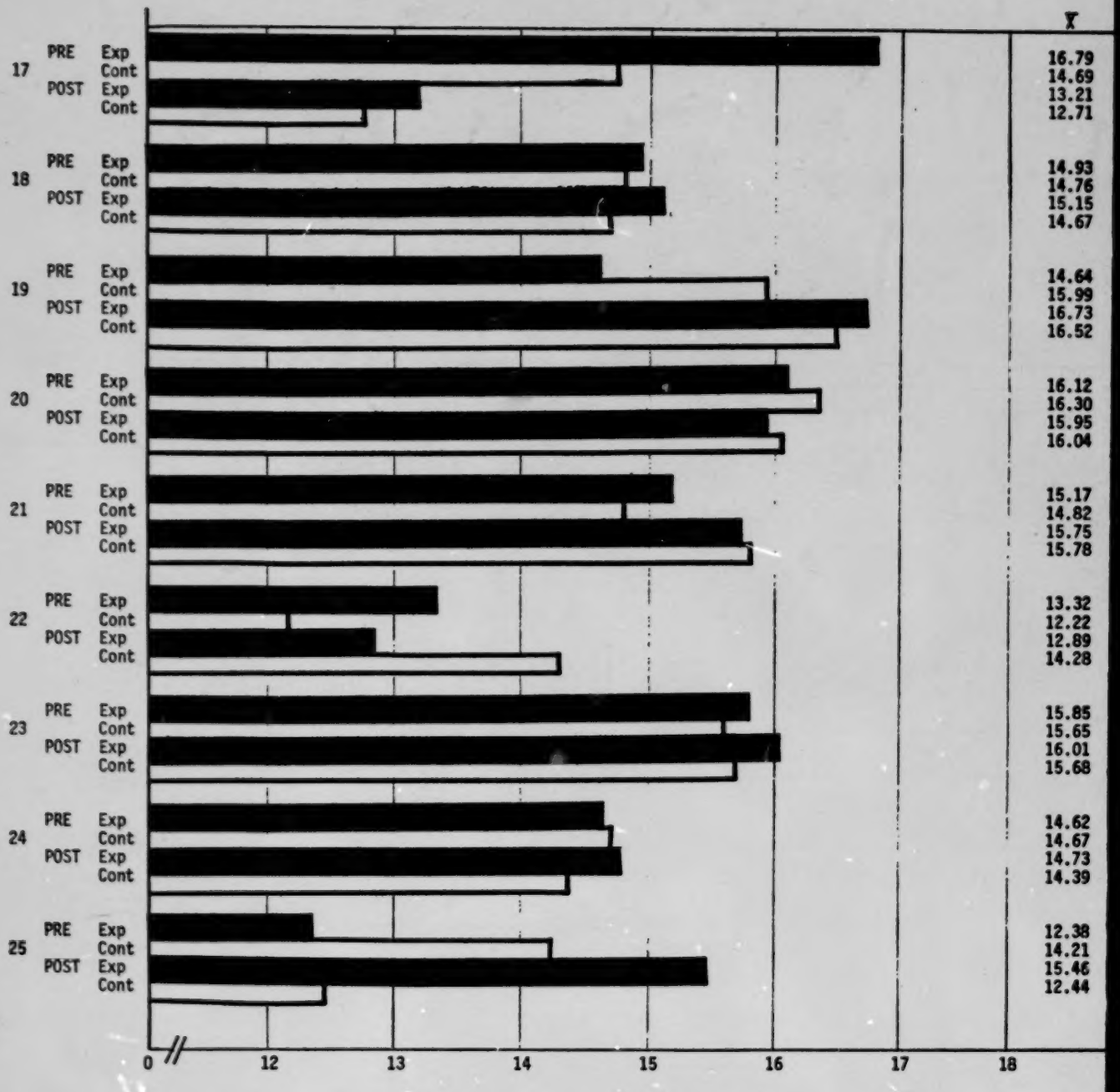


FIGURE 4--Mean scores on specific attitude objectives 17-25 for both experimental (N=3,083) and control (N=895) samples for both pretest and posttest administrations.

but the measures employed were unable to document them. In any case, the specific attitude objective measures yielded disappointing results.

For a complete tabulation of pre- and post-test means and standard errors for attitude objectives 17-25, for both experimental and control samples overall and by state, see page 232.

Specific Behavioral Intention Objectives -- For the six specific behavioral intention objectives, none was able to provide any evidence of Module effectiveness. The same explanation as was offered for the disappointing results of the specific attitude objectives applies here as well.

The results of the overall sample in relation to the six behavioral intention objectives are presented in Figure 5 (page 178).

For a complete tabulation of pre- and post-test means and standard errors for behavioral intention objectives 26-31, for both experimental and control samples overall and by state, see page 232.

Item 36 on each form within the test battery was an open ended item to gather another kind of data relevant to the specific behavioral intention objectives. A small sample of responses to item 36 was randomly selected and content-analyzed to look at the change, if any, of responses from pretest to posttest administrations. The results of this analysis are presented on pages 234-237. There were no important differences discovered between the experimental and control groups in terms of these open ended responses.

Second Posttest for Overall Measures -- A subsample of the overall experimental sample was administered a second posttest eight weeks after the initial posttest. For those who had complete pre-, post-, and postpost-tests available (N = 480) overall knowledge, attitude, and behavior scores were computed. These results appear in Figure 6 (page 179).

For the overall knowledge measure, the pretest mean score was 40.68. The first posttest mean was 47.58, and the second posttest mean was 46.79. This finding provides evidence of a continuance over eight weeks of highly significant knowledge improvement.

The overall attitude measure produced a pretest mean score of 122.31. The first posttest was 124.10 and the second posttest 122.98. These findings fail to support a sustained attitude change.

The overall behavior measure yielded a pretest of 97.37, a posttest of 97.40, and a second posttest of 93.45. While the decline in score for the second posttest is probably an artifact, these data fail to support the existence of behavior change after eight weeks.

The tabulation of pre, post, and post posttest mean scores along with standard error variance, and estimates of reliability appear for this sub-sample on page 233.

Summary -- The experimental sample as a whole showed significant improvement when compared to the control sample on the overall measures of knowledge and attitude, but not for behavior. The experimental sample also showed significant improvement on seven of ten general objectives: all five knowledge, two of three attitude, and none of two behavior.

By state, the overall measure of knowledge showed significant improvement for 6 states; attitude and behavior showed improvement for two states. Six states showed improved performance for general objective 1; five states showed similarly for general objectives 2 and 3; while four states improved on general objective 5. There was improvement for three states on general objective 9, and for two states for general objectives 4 and 6; improvement was noted for one state for general objectives 7, 8, and 10.

These findings are summarized in Table III (page 180).

Findings reflecting the administration of a second posttest showed that knowledge changes are durable (at least for eight weeks) but provided no such evidence for attitude or behavior changes.

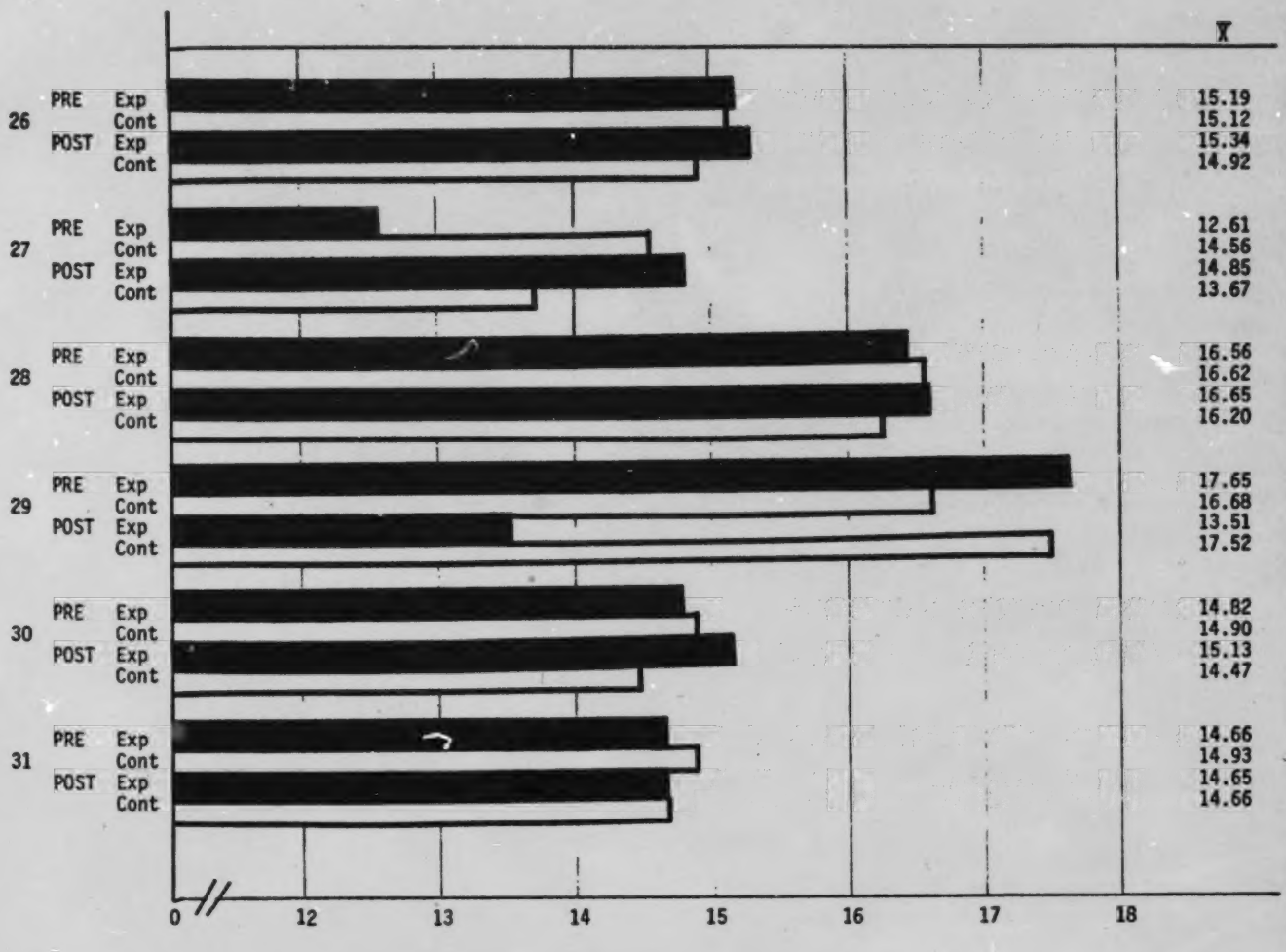


FIGURE 5--Mean scores on specific behavior objectives 26-31 for both experimental (N=3,083) and control (N=895) samples for both pretest and posttest administrations.

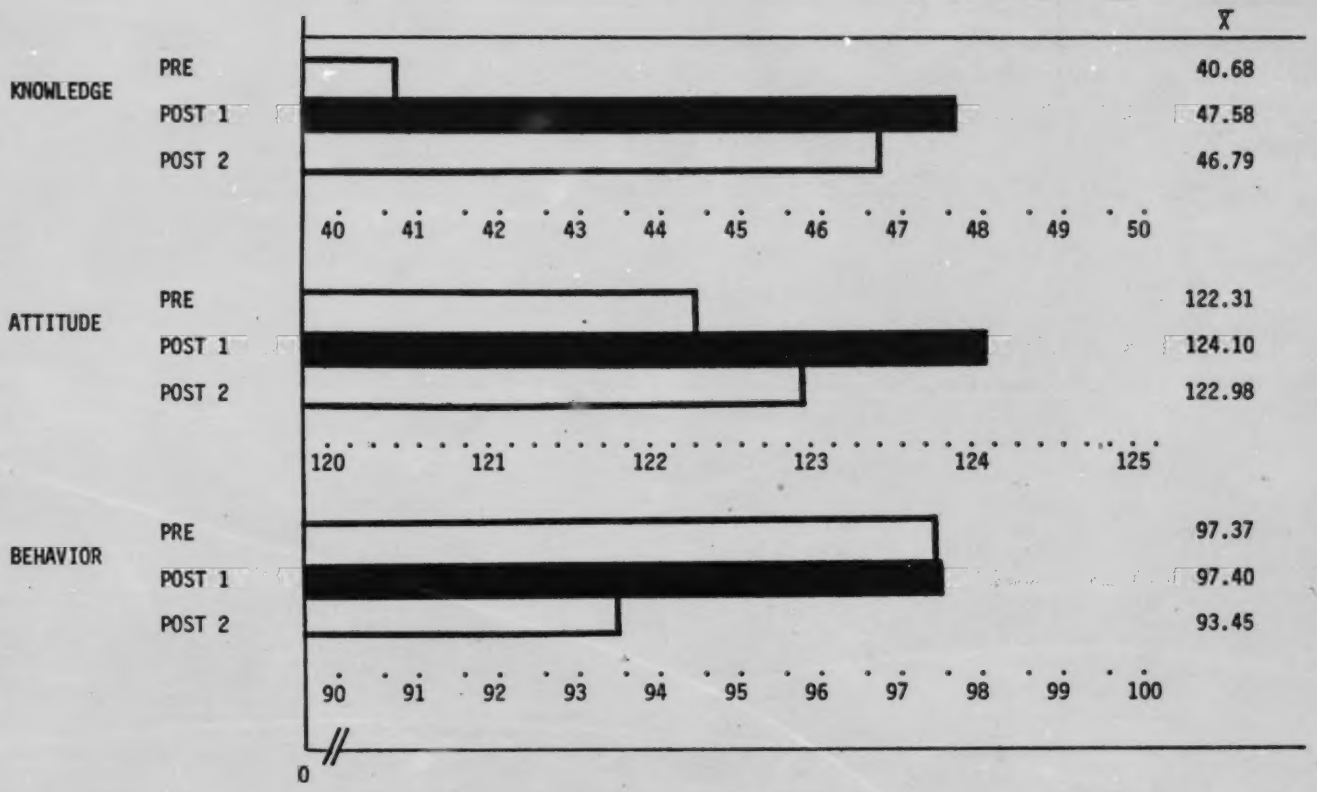


FIGURE 6--Mean scores on the pretest, posttest, and second posttest for 480 experimental subjects on the overall measures of knowledge, attitude, and behavior.

TABLE III

SUMMARY OF SIGNIFICANT DIFFERENCES OVERALL AND BY STATE FOR THE OVERALL MEASURES OF KNOWLEDGE, ATTITUDE, AND BEHAVIOR, AND THE TEN GENERAL OBJECTIVES

Measure	Overall	State						
		CA	FL	MO	NY	OK	PA	VA
Knowledge	***	***	NS	***	***	***	***	**
Attitude	***	NS	NS	NS	***	NS	***	NS
Behavior	NS	NS	NS	NS	***	NS	***	↓
Gen. Obj. 1	***	***	NS	***	***	***	***	***
Gen. Obj. 2	***	***	NS	***	***	***	***	NS
Gen. Obj. 3	***	***	NS	NS	***	***	***	***
Gen. Obj. 4	***	***	NS	NS	NS	***	NS	NS
Gen. Obj. 5	***	***	NS	***	NS	***	***	NS
Gen. Obj. 6	NS	NS	NS	***	NS	NS	***	↓
Gen. Obj. 7	***	↓	NS	NS	NS	NS	***	NS
Gen. Obj. 8	***	NS	NS	↓	***	NS	NS	NS
Gen. Obj. 9	NS	*	NS	NS	NS	***	***	NS
Gen. Obj. 10	↓	NS	NS	NS	↓	NS	***	NS

* $p < .05$
** $p < .01$
*** $p < .001$
↓ control group showed significantly better performance
NS not significant

ALCOHOL KNOWLEDGE TEST*

Instructions: Read each question carefully. Decide which response is correct and place a check (✓) in the appropriate space in the answer column on the right. Some of the questions contain terms with which you may not be familiar, so just do as well as you can with your present understanding. Do not ask the instructor to define terms or answer questions relating to specific items. Answer every question to the best of your ability and as honestly as possible.

* Preliminary Form A
Correct answers are indicated.

NAME_____ INSTRUCTOR_____ CLASS_____ DATE_____

PART I

1. Approximately what percentage of *fatal* traffic accidents involve alcohol use?
   (a) 1% [ ]
   (b) 10% [ ]
   (c) 50% [✓]
   (d) nearly all [ ]
   (e) no one knows [ ]

2. Alcohol is associated with approximately how many traffic fatalities annually?
   (a) 5,000 [ ]
   (b) 10,000 [ ]
   (c) 25,000 [✓]
   (d) 60,000 [ ]
   (e) it is not possible to estimate [ ]

3. On the basis of present-day knowledge, the greatest single driver-related cause of highway deaths is:
   (a) emotional upsets [ ]
   (b) inattention [ ]
   (c) fatigue [ ]
   (d) alcohol [✓]
   (e) lack of experience [ ]

4. Which of the following are true?
   (a) Teenagers drive better after drinking than adults do after drinking, because teenagers have better reaction time. [ ]
   (b) Teenagers usually "handle" alcohol better than do adults. [ ]
   (c) Teenagers drink alcohol for many of the same reasons that adults drink alcohol. [✓]
   (d) All of the above [ ]
   (e) None of the above [ ]

5. Why are teenagers more likely to have difficulty driving safely after drinking?
   (a) Driving is a new and complicated skill for them. [ ]
   (b) They have had less experience with alcohol's effects. [ ]
   (c) They often weigh less than adults. [ ]
   (d) All of the above [✓]
   (e) None of the above [ ]

6. What does "blood concentration" mean?
   (a) percentage of alcohol in a person's blood stream [✓]
   (b) ounces of alcohol that have been consumed in a given time period [ ]
   (c) a level of alcohol in the blood which causes intoxication [ ]
   (d) all of the above [ ]
   (e) none of the above [ ]

7. Authorities state that a driver is intoxicated when the alcohol in the blood reaches a level of:
   (a) 0.05% [ ]
   (b) 0.08% [ ]
   (c) 0.10% [✓]
   (d) 0.15% [ ]
   (e) 0.20% [ ]

8. What does "presumptive level of intoxication" mean?
   (a) the number of drinks at which a driver may be presumed to be drunk [ ]
   (b) failing tests of coordination and balance which presume intoxication [ ]
   (c) both of the above [ ]
   (d) behavior of a driver which a police officer considers impaired [ ]
   (e) a blood alcohol concentration at which a driver may be presumed to be drunk [✓]

9. At what blood alcohol concentration are drivers generally considered drunk?
   (a) 0.03%
   (b) 0.10%
   (c) 2.00%
   (d) 20.50%
   (e) anywhere between 1.00 and 4.00%

   (a) [ ]
   (b) [✓]
   (c) [ ]
   (d) [ ]
   (e) [ ]

10. Which of the following best describes the most serious effect of alcohol on driver performance?
   (a) blurs vision
   (b) reduces hearing ability
   (c) increases attention span
   (d) reduces ability to react quickly

   (a) [ ]
   (b) [ ]
   (c) [ ]
   (d) [✓]

11. If a person were to drink equal amounts of the following, which would cause them to become "high" fastest?
   (a) wine
   (b) beer
   (c) whiskey
   (d) champagne
   (e) all of the above would take about the same time

   (a) [ ]
   (b) [ ]
   (c) [✓]
   (d) [ ]
   (e) [ ]

12. A beverage that is "100 proof" contains what percentage of alcohol?
   (a) 25
   (b) 50
   (c) 75
   (d) 100
   (e) there is no such proof

   (a) [ ]
   (b) [✓]
   (c) [ ]
   (d) [ ]
   (e) [ ]

13. In a comparison between a 12 oz. can of beer and 4 oz. of wine, which of the following is correct?
   (a) 4 oz. of wine contains more alcohol than 12 oz. of beer.
   (b) 12 oz. of beer contains more alcohol than 4 oz. of wine.
   (c) Both contain approximately the same amount of alcohol content.
   (d) You can't make such a comparison since there are different types of alcohol in each.

   (a) [ ]
   (b) [ ]
   (c) [✓]
   (d) [ ]

14. Which does *not* contain a drug:
   (a) cigarette
   (b) beer
   (c) sleeping pill
   (d) orange juice
   (e) a, b and c

   (a) [ ]
   (b) [ ]
   (c) [ ]
   (d) [✓]
   (e) [ ]

15. Which of the following are drugs?
   (a) heroin
   (b) LSD
   (c) alcohol
   (d) all of the above
   (e) a and b

   (a) [ ]
   (b) [ ]
   (c) [ ]
   (d) [✓]
   (e) [ ]

16. From the standpoint of nutrition, an alcoholic beverage is:
   (a) an excellent food
   (b) well balanced, but fattening
   (c) high in calories but low in vitamins and minerals

   (a) [ ]
   (b) [ ]
   (c) [✓]

17. The calories one takes in by drinking alcohol are:
   (a) stored as fat
   (b) "burned up" immediately
   (c) not fattening
   (d) stored in the liver

   (a) [ ]
   (b) [✓]
   (c) [ ]
   (d) [ ]

18. The time it takes the body of an average person to get rid of the alcohol in 2 12 ounce bottles of beer is approximately:
   (a) 6 hours
   (b) 4 hours
   (c) 2 hours
   (d) 1 hour
   (e) ½ hour

   (a) [ ]
   (b) [ ]
   (c) [✓]
   (d) [ ]
   (e) [ ]

19. The quickest way to become sober is to:
    (a) drink black coffee [a]
    (b) drink hot tea [b]
    (c) take a cold shower [c]
    (d) go out in the fresh air [d]
    (e) stop drinking [e] ✓

20. The rate at which alcohol is oxidized in the body is:
    (a) decreased by sleep [a]
    (b) increased by exercise [b]
    (c) decreased by exercise [c]
    (d) fixed [d] ✓
    (e) increased by drinking tomato juice [e]

21. Which of the following human functions is likely to be affected first by alcohol intake?
    (a) muscular coordination [a]
    (b) judgment [b] ✓
    (c) breathing [c]
    (d) speech [d]
    (e) balance [e]

22. Which of the following behavioral effects can alcohol produce?
    (a) risk taking [a]
    (b) depression (sadness) [b]
    (c) relaxation [c]
    (d) happy feelings [d]
    (e) all of the above [e] ✓

23. Which of the following influences the effects of alcohol?
    (a) the amount of food in the stomach [a]
    (b) the body weight of the person [b]
    (c) the mood of the individual [c]
    (d) a and b [d]
    (e) a, b and c [e] ✓

24. Which of the following is true about the effects produced by a given quantity of alcohol?
    (a) effects are less with a full stomach [a] ✓
    (b) effects are more lasting in the afternoon than at night [b]
    (c) intoxicating effects occur even before the alcohol is absorbed into the blood [c]
    (d) all of the above [d]
    (e) effects in a given person are the same at all times [e]

25. Which of the following will affect how a person behaves when drinking?
    (a) the situation he's drinking in (party, alone, etc.) [a]
    (b) his mood before he started drinking [b]
    (c) his drinking experience [c]
    (d) his attitude toward whether drinking is "good" or "bad" [d]
    (e) all of the above [e] ✓

26. Problem drinking affects the:
    (a) individual [a]
    (b) family [b]
    (c) society [c]
    (d) all of the above [d] ✓

27. Alcoholism is:
    (a) a disease needing treatment [a] ✓
    (b) a moral weakness [b]
    (c) a contagious disease [c]
    (d) all of these [d]
    (e) none of these [e]

28. Alanon is an organization that helps the:
    (a) alcoholic [a]
    (b) the spouse of the alcoholic [b] ✓
    (c) the child of the alcoholic [c]

PART II

		True	False
29.	One out of every two drivers killed in crashes has been drinking alcohol.	[✓]	[]
30.	Teenagers have more alcohol related traffic fatalities proportionately than other age groups.	[✓]	[]
31.	Because of their youth teenagers who have been drinking maintain better control of their cars than older people.	[]	[✓]
32.	The amount of alcohol in the blood levels off as one continues to drink.	[]	[✓]
33.	The slower one drinks, the faster the increase of alcohol in the blood.	[]	[✓]
34.	As one drinks more and more, less of the alcohol reaches the blood.	[]	[✓]
35.	When the alcohol content of a person's blood reaches 0.01% the individual is legally "under the influence."	[]	[✓]
36.	As few as two drinks can cause driving performance to deteriorate somewhat.	[✓]	[]
37.	Drivers see less clearly and react more slowly after drinking.	[✓]	[]
38.	Loss of judgment while driving occurs before there are obvious signs of intoxication.	[✓]	[]
39.	Ads for beer and whiskey usually show those drinking having lots of fun.	[✓]	[]
40.	Ads for alcoholic beverages show both good and bad aspects of drinking.	[]	[✓]
41.	Liquor ads frequently show persons arguing and fighting.	[]	[✓]
42.	Advertisements of alcoholic beverages are intended to appeal only to persons over thirty.	[]	[✓]
43.	Liquor ads only attract older people.	[]	[✓]
44.	Ads for alcohol tend to increase sales for alcoholic beverages.	[✓]	[]
45.	Ads for alcohol tend to make persons think it is good.	[✓]	[]
46.	Lots of people buy alcoholic beverages because they see and hear ads for them.	[✓]	[]
47.	You can't get drunk as fast on beer as on liquor.	[]	[✓]
48.	As a drug, alcohol is a depressant.	[✓]	[]
49.	Alcohol is the oldest most widely used drug in the world.	[✓]	[]
50.	Alcohol contains considerable amounts of proteins and minerals.	[]	[✓]
51.	Science has shown that alcohol is a necessary food.	[]	[✓]
52.	As soon as a person stops drinking he/she sobers immediately.	[]	[✓]
53.	A person can OD and die from alcohol.	[✓]	[]
54.	Small amounts of alcohol usually reduces one's ability to make judgments, particularly about oneself.	[✓]	[]
55.	A drink taken with food has less effect than one taken on an empty stomach.	[✓]	[]
56.	Drunkeness and alcoholism are one and the same.	[]	[✓]
57.	For the person who is becoming more dependent on alcohol, drinking gradually becomes more frequent and it takes more alcohol to feel the same kick.	[✓]	[]

		True	False
58.	It is difficult to define exactly when a person has become an alcoholic.	[✓]	[]
59.	The alcoholic's disease is one of the most misunderstood illnesses.	[✓]	[]
60.	Alcoholism is one of the most serious illnesses in the United States.	[✓]	[]
61.	Alcoholism is a disease often accompained by other complications.	[✓]	[]
62.	Health Education teachers can be used as resources for providing information to students concerning problems related to alcohol use.	[✓]	[]
63.	The only one who can receive help in dealing with alcoholism is the alcoholic.	[]	[✓]
64.	There are few AA groups available to the alcoholic.	[]	[✓]

ALCOHOL KNOWLEDGE TEST*

Instructions: Read each question carefully. Decide which response is correct and place a check (✓) in the appropriate space in the answer column on the right. Some of the questions contain terms with which you may not be familiar, so just do as well as you can with your present understanding. Do not ask the instructor to define terms or answer questions relating to specific items. Answer every question to the best of your ability and as honestly as possible.

* Preliminary Form B
Correct answers are indicated.

NAME_____ INSTRUCTOR_____ CLASS_____ DATE_____

PART I

1. Alcohol is a factor in approximately what percentage of fatal automobile crashes?
   (a) 10% [ ]
   (b) 20% [ ]
   (c) 30% [ ]
   (d) 40% [ ]
   (e) 50% [✓]

2. Alcohol is a factor in approximately what percentage of fatal *single car* crashes?
   (a) 10% [ ]
   (b) 25% [ ]
   (c) 40% [ ]
   (d) 55% [ ]
   (e) 70% [✓]

3. When a non-drinking driver is compared with a driver who is legally drunk, about how much more likely is it that the drunken driver will become involved in a traffic accident?
   (a) no more likely [ ]
   (b) 5-10 times more likely [ ]
   (c) over 25 times more likely [✓]
   (d) no one knows [ ]

4. Driving behavior of teenagers compared to adults is more likely to be influenced by the same amount of alcohol because teenagers are:
   (a) less experienced as drivers [ ]
   (b) less experienced as drinkers [ ]
   (c) less experienced at driving after drinking [ ]
   (d) a bit of all of the above [✓]
   (e) none of the above [ ]

5. Why is driving after drinking more risky for teenagers than adults?
   (a) Alcohol affects the brain differently for teenagers than adults. [ ]
   (b) Teenagers usually have not yet learned to compensate for some of alcohol's effects. [✓]
   (c) Teenagers are more likely to not remember how much they drink. [ ]
   (d) All of the above [ ]
   (e) None of the above [ ]

6. What does "blood alcohol concentration" mean?
   (a) percentage of alcohol in a person's blood stream [✓]
   (b) ounces of alcohol that have been consumed in a given time period [ ]
   (c) a level of alcohol in the blood which causes intoxication [ ]
   (d) all of the above [ ]
   (e) none of the above [ ]

7. In this State, what blood alcohol concentration must be reached to convict a driver of drunken driving?
   (a) 0.05 per cent [ ]
   (b) 0.08 per cent [ ]
   (c) 0.10 per cent [✓]
   (d) 0.15 per cent [ ]
   (e) 0.20 per cent [ ]

8. Which of the following is of most value in determining how drunk a driver is?
   (a) opinion of the arresting policeman [ ]
   (b) opinion of witnesses [ ]
   (c) speech test [ ]
   (d) breath analysis [✓]
   (e) walking a straight line [ ]

9. At which percentage of alcohol in the blood is one considered to be driving while intoxicated?
   (a) .02 [ ]
   (b) .10 [✓]
   (c) .50 [ ]

10. A serious effect of alcohol is to increase a driver's self confidence while reducing:
   (a) his sensing ability [ ]
   (b) his ability to make accurate judgments [ ]
   (c) his decision-making ability [ ]
   (d) all of the above [✓]
   (e) none of the above [ ]

11. If a person were to drink 8 ounces of each of the following, which one would cause him to become "high" fastest?
   (a) wine [ ]
   (b) beer [ ]
   (c) whiskey [✓]
   (d) ale [ ]
   (e) all of the above are about the same [ ]

12. What per cent of 80 proof whiskey is pure alcohol?
   (a) 80 [ ]
   (b) 60 [ ]
   (c) 40 [✓]
   (d) 20 [ ]
   (e) per cent cannot be determined by proof [ ]

13. Which of the following statements are ture?
   (a) 12 ounces of beer contain the same amount of alcohol as 1½ ounces of whiskey [ ]
   (b) 5 ounces of wine contain the same amount of alcohol as 12 ounces of beer [ ]
   (c) 1½ ounces of whiskey contain the same amount of alcohol as 5 ounces of wine [ ]
   (d) All of the above [✓]
   (e) None of the above [ ]

14. Which of the following does not contain a drug?
   (a) aspirin [ ]
   (b) beer [ ]
   (c) pot [ ]
   (d) coffee [ ]
   (e) ginger ale [✓]

15. What do alcohol and "downers" have in common?
   (a) they can be bought by anyone [ ]
   (b) they are both depressants [✓]
   (c) most adults use them [ ]
   (d) they only come in liquid form [ ]

16. Which most accurately describes the food value of alcohol?
   (a) high protein, low calorie [ ]
   (b) high calorie, little food value [✓]
   (c) high calorie, high vitamin content [ ]
   (d) high vitamin and mineral content, low protein [ ]
   (e) low calorie, low vitamin content [ ]

17. Which is true?
   (a) Alcohol is mostly fat. [ ]
   (b) Alcohol contains some protein. [ ]
   (c) Beer is almost as nutritious as milk. [ ]
   (d) None of the above. [✓]

18. How fast is alcohol eliminated from the body?
   (a) one average drink per hour [✓]
   (b) two average drinks per hour [ ]
   (c) three average drinks per hour [ ]
   (d) it depends on what the person eats [ ]
   (e) it depends on the person's weight and drinking experience [ ]

PART II

		True	False
29.	The more you drink before driving, the worse you drive.	[✓]	[]
30.	A person under 35 is more likely to die as a result of a traffic accident than from any other single cause.	[✓]	[]
31.	Only a small percentage of traffic accidents involve teenage drinking drivers.	[]	[✓]
32.	Once a person is drunk, further drinking will not increase the amount of alcohol in his/her blood.	[]	[✓]
33.	The faster one drinks, the faster the increase of alcohol in the blood.	[✓]	[]
34.	As soon as one stops drinking, his/her blood alcohol concentration drops rapidly.	[]	[✓]
35.	In most states the blood alcohol level at which a driver is assumed to be impaired is .10%.	[✓]	[]
36.	A person with a blood alcohol level a little below the legal limit for intoxication probably is able to drive safely, even in emergencies.	[]	[✓]
37.	A driver will have better coordination after a few drinks.	[]	[✓]
38.	A driver will think and react more quickly when sober than when he/she has been drinking.	[✓]	[]
39.	Alcohol industries spend over one million dollars per year for advertising.	[✓]	[]
40.	Alcohol ads show a true balance between positive and negative sides of drinking.	[]	[✓]
41.	Ads for alcohol sometimes show persons with hangovers.	[]	[✓]
42.	It is rare that teenagers see an ad for an alcoholic beverage.	[]	[✓]
43.	Liquor ads have little effect on teenagers.	[]	[✓]
44.	Liquor ads get people to buy beverages without knowing the effects.	[]	[✓]
45.	Advertisements for sweet wines attract teenagers.	[✓]	[]
46.	While males usually are influenced by ads for alcoholic beverages females usually are not.	[]	[✓]
47.	A six ounce glass of wine has more alcohol than a six ounce glass of beer.	[✓]	[]
48.	Alcohol is a stimulant.	[]	[✓]
49.	Alcohol is the most commonly abused drug in the United States.	[✓]	[]
50.	Alcohol is high in nutrients.	[]	[✓]
51.	Alcohol taken into the body is stored for growth and tissue repair.	[]	[✓]
52.	The rate of alcohol oxidation in the body is fixed.	[✓]	[]
53.	An excessive amount of alcohol consumed in a short period of time can cause unconsciousness and even death.	[✓]	[]
54.	Judgment is one of the first functions affected by alcohol.	[✓]	[]
55.	Alcohol taken on an empty stomach is absorbed more rapidly than alcohol taken with a meal.	[✓]	[]
56.	Drunkeness on the part of an individual clearly shows that he is addicted to alcohol.	[]	[✓]

19. Which would "sober someone up" if he/she wanted to drive?
    (a) black coffee [ ]
    (b) a cold shower [ ]
    (c) time [✓]
    (d) vigorous exercise [ ]
    (e) none of the above [ ]

20. For each one ounce of whiskey, the minimum time a person should wait before driving is:
    (a) 10 minutes [ ]
    (b) 30 minutes [ ]
    (c) 1 hour [✓]
    (d) 2 hours [ ]

21. Which best describes the effects of alcohol?
    (a) speeds up reflexes, improves judgment and control [ ]
    (b) worsens vision, reduces judgment and control [✓]
    (c) worsens vision, improves judgment and control [ ]
    (d) slows reflexes, improves judgment and control [ ]

22. Three to five ounces of whiskey on an empty stomach will make the average person:
    (a) think he can do things that he cannot actually do [ ]
    (b) believe he is performing better than he really is [ ]
    (c) less sure of himself [ ]
    (d) a and b [✓]
    (e) all of the above [ ]

23. Which of the following influence the effects of alcohol?
    (a) the amount of food in the stomach [ ]
    (b) the body weight of the individual [ ]
    (c) the height of the individual [ ]
    (d) a and b [✓]
    (e) all of the above [ ]

24. Which of the following statements are *false* concerning the effects of a given amount of alcohol?
    (a) Effects vary for different persons. [ ]
    (b) Effects vary for a given person from time to time. [ ]
    (c) Effects are greater if the alcohol is consumed in wine than in beer. [✓]
    (d) Effects are greater if the person is not used to drinking. [ ]
    (e) All of the above. [ ]

25. Which of the following may affect how a given dose of alcohol may influence a person?
    (a) previous experience with alcohol [ ]
    (b) emotional state [ ]
    (c) intelligence [ ]
    (d) a and b [✓]

26. A person suffering from alcoholism is:
    (a) always drunk [ ]
    (b) unable to control how much he drinks [✓]
    (c) usually unemployed [ ]
    (d) often a "skid row" bum [ ]
    (e) all of the above [ ]

27. According to recent statistics alcoholism is:
    (a) one of the most serious illnesses in our country [✓]
    (b) less prevalent than in previous years [ ]
    (c) not a serious problem in the U.S. [ ]
    (d) none of the above [ ]

28. Alateen is an organization that helps the:
    (a) alcoholic [ ]
    (b) the spouse of the alcoholic [ ]
    (c) the child of the alcoholic [✓]

	True	False
57. Often, a person can lose friends, a job, and love of a family as a drinking problem progresses.	[✓]	[]
58. If an individual drinks alone he may have a problem.	[✓]	[]
59. Alcoholism is a complicated illness identified as partly physical, psychological and sociological.	[✓]	[]
60. Alcoholism is a treatable disease.	[✓]	[]
61. Alcoholism cannot really be called a disease.	[]	[✓]
62. School psychologists and guidance counselors are trained to give advice to students regarding family or personal drinking problems.	[✓]	[]
63. There are organizations available for family members of the alcoholic.	[✓]	[]
64. A.A. groups can be found in most communities or nearby.	[✓]	[]

JHS INVENTORY FOR ALCOHOL AND TRAFFIC SAFETY

Instructions: Read each question carefully. Decide which response is most appropriate and place a check (✓) in that column on the right. Some of the questions contain terms with which you may not be familiar, so just do as well as you can with your present understanding. Do not ask the instructor to define terms or answer questions relating to specific items. Answer every question to the best of your ability and as honestly as possible.

NAME _____ INSTRUCTOR _____ CLASS _____ DATE _____

	STRONGLY AGREE	AGREE	NOT SURE	DISAGREE	STRONGLY DISAGREE
1. Attitudes toward drinking can be influenced by pressure from advertising.	—	—	—	—	—
2. Influence of friends is usually an important factor in determining whether or not young people drink.	—	—	—	—	—
3. Using alcohol to solve problems will only create more problems in the end.	—	—	—	—	—
4. I would never deliberately say something that would hurt someone's feelings.	—	—	—	—	—
5. The wise thing to do before a big test or important meeting is to take a drink to calm the nerves.	—	—	—	—	—
6. Social drinking at parties is OK if done in moderation.	—	—	—	—	—
7. I think it is sometimes right to be punished without cause.	—	—	—	—	—
8. While drinking enough to lose control of behavior is "bad news" weddings and other celebrations are exceptions and you can really let yourself go.	—	—	—	—	—
9. It is OK to drive after having up to about 8 drinks if you are very careful.	—	—	—	—	—
10. Drinking to the level of impairment and then driving is dangerous, unacceptable behavior.	—	—	—	—	—
11. Even if I had the opportunity, I would never feel the urge to tell someone off.	—	—	—	—	—
12. I feel it is important for me to explore the reasons for my drinking behavior.	—	—	—	—	—
13. It is important for me to determine what effects alcohol would have on my driving, schooling, working and other aspects of my future.	—	—	—	—	—
14. I feel it is important to think of the DWI situations which are likely for me, and of ways to avoid them.	—	—	—	—	—
15. I would always be willing to admit when I make a mistake.	—	—	—	—	—

	STRONGLY AGREE	AGREE	NOT SURE	DISAGREE	STRONGLY DISAGREE
16. All persons would be wise to try and figure out how to prevent being in drinking driver situations before they occur.	—	—	—	—	—
17. I would participate in an alcohol education program designed especially to answer questions raised by kids my age.	—	—	—	—	—
18. I'd like to debate which is more dangerous (booze or pot).	—	—	—	—	—
19. A strong desire to smash things is OK when you are overly angry.	—	—	—	—	—
20. I would be willing to offer suggestions as to other ways students can make use of their leisure time.	—	—	—	—	—
21. I would be willing to discuss different ways of solving personal problems which I feel would lead to alcohol abuse.	—	—	—	—	—
22. I would probably accept a ride with a driver who has had only a few drinks.	—	—	—	—	—
23. It is sometimes hard for me to go on with my work if I am not encouraged.	—	—	—	—	—
24. I would refuse to get into a car when the driver has had too much to drink.	—	—	—	—	—
25. If it is practical I will attempt to prevent others from riding with a driver whose ability has been impaired by alcohol.	—	—	—	—	—
26. I would go out of my way to take someone home just to prevent him from riding with a drunken driver.	—	—	—	—	—
27. If I could get into a movie without paying for it and be sure I was not seen, I would probably do it.	—	—	—	—	—
28. If I use alcohol beverages, I will stop drinking before I lose control of my behavior.	—	—	—	—	—
29. I wouldn't mind losing control of my behavior as a result from drinking as long as I am not in any physical danger.	—	—	—	—	—
30. I would call a person who chooses not to drink "antisocial."	—	—	—	—	—
31. I sometimes feel resentful when I don't get my way.	—	—	—	—	—
32. It is OK to drink to help you feel grown up.	—	—	—	—	—
33. I believe that advertisements try to get people to drink more.	—	—	—	—	—
34. I feel that most advertisements concerning the use of alcohol encourage good drinking habits.	—	—	—	—	—

	STRONGLY AGREE	AGREE	NOT SURE	DISAGREE	STRONGLY DISAGREE
35. TV ads encourage kids my age to try some alcoholic beverages.	—	—	—	—	—
36. Advertising has little effect on one's decision to drink.	—	—	—	—	—
37. Alcohol advertising is intended to encourage one to drink.	—	—	—	—	—
38. Most alcohol advertising makes drinking look like fun.	—	—	—	—	—
39. Most alcohol advertising shows people having a good time while drinking.	—	—	—	—	—
40. Friends don't have much influence on one's drinking patterns.	—	—	—	—	—
41. Many persons drink just because their friends do.	—	—	—	—	—
42. When one's classmates and friends drink the pressure is on him or her to join them.	—	—	—	—	—
43. It's easier to drink if you have friends who drink.	—	—	—	—	—
44. For most people it is not always easy to refuse a drink when your date insists.	—	—	—	—	—
45. Many people choose to drink or not to drink depending upon what their friends do.	—	—	—	—	—
46. Most teenagers are embarressed to refuse when pressured to drink by their peers.	—	—	—	—	—
47. It's OK to get drunk once in a while, just to get away from everything.	—	—	—	—	—
48. It's OK for someone to have a few drinks if they want to forget something unpleasant that has happened.	—	—	—	—	—
49. I feel that you should not drink if the reason is that things went wrong for you.	—	—	—	—	—
50. Sometimes drinking can make problems easier to handle.	—	—	—	—	—
51. Drinking enough booze can make problems disappear.	—	—	—	—	—
52. It's OK to drink if it makes you feel better about yourself.	—	—	—	—	—
53. It is OK to drink to escape from the monotony of your everyday routine.	—	—	—	—	—
54. It is desirable for young people to drink when they see adults drinking.	—	—	—	—	—

	STRONGLY AGREE	AGREE	NOT SURE	DISAGREE	STRONGLY DISAGREE
55. Youth would be wise to try and imitate adult drinking patterns.	—	—	—	—	—
56. It is OK to drink if the adults around you do so.	—	—	—	—	—
57. I think that drinking to "be an adult" could be a wise decision for most people.	—	—	—	—	—
58. I feel that it is stupid to drink if the reason is because adults do it.	—	—	—	—	—
59. Drinking is alright if done to imitate parental drinking patterns.	—	—	—	—	—
60. Drinking as much as adults and holding it well is a sign of being grown up.	—	—	—	—	—
61. Drinking alcohol to reduce tension is a good idea.	—	—	—	—	—
62. Having a few drinks after an argument is a sensible way to "cool off."	—	—	—	—	—
63. Drinking large amounts which would be unacceptable at other times is OK when under a great deal of pressure.	—	—	—	—	—
64. It is OK to drink to better cope with problems.	—	—	—	—	—
65. It is OK to drink if it helps you feel more relaxed.	—	—	—	—	—
66. I feel that it's a bad idea to drink to calm you down.	—	—	—	—	—
67. Persons who drink when they are nervous and under stress are doing themselves a favor.	—	—	—	—	—
68. One who has just finished several quick drinks should not drive for awhile.	—	—	—	—	—
69. Drunken driving is undesirable for the community as well as for the individual.	—	—	—	—	—
70. Driving after drinking is dangerous for the driver and his passengers.	—	—	—	—	—
71. Driving after 3 or 4 drinks is OK provided that one is an experienced driver.	—	—	—	—	—
72. It is OK to drive after drinking if one does not "feel" drunk.	—	—	—	—	—
73. It is acceptable to drive if one has only drunk beer.	—	—	—	—	—
74. When attending a party at a friend's house it is best to have not more than one drink per hour.	—	—	—	—	—

	STRONGLY AGREE	AGREE	NOT SURE	DISAGREE	STRONGLY DISAGREE
75. Drinking alcoholic beverages is "asking for trouble," even when done in moderation at family celebrations.	—	—	—	—	—
76. Having a drink or two at family celebrations is OK.	—	—	—	—	—
77. A wedding toast is a most acceptable gesture to the bride and groom.	—	—	—	—	—
78. It is really bad for churches to use wine during ceremonies.	—	—	—	—	—
79. It's alright for most persons to drink at parties if they don't overdo it.	—	—	—	—	—
80. I think it is useful for me to try and understand how drinking influences my life.	—	—	—	—	—
81. It would be a waste of time for me to try and figure out if my drinking habits interfere with any other of my activities.	—	—	—	—	—
82. I feel that it would be useless for me to examine my drinking habits.	—	—	—	—	—
83. I don't think it would make sense for me to determine what effects my drinking has on my family or on my behaviors.	—	—	—	—	—
84. I feel that it would be a good idea for most people to look at themselves and see if drinking is hurting them in any way.	—	—	—	—	—
85. I believe that for most people it would be a waste of time to try and understand how drinking influences their lives.	—	—	—	—	—
86. It makes no sense to try and determine how to prevent getting into a drunken driving situation.	—	—	—	—	—
87. In a drinking society, alcohol education for drivers is as important as driver education.	—	—	—	—	—
88. I feel it is worthwhile for me to think of the situations in which I might have to face riding with a driver who has drunk too much, and of what I will do about it.	—	—	—	—	—
89. It is a waste of time to assess the various approaches used to prevent drunken driving.	—	—	—	—	—
90. I think it's not worth the effort to try and avoid getting into drunken driver situations.	—	—	—	—	—
91. If a person is not "drunk" they do not have to worry about DWI.	—	—	—	—	—
92. I am willing to participate in class discussions on the problems of alcohol.	—	—	—	—	—

	STRONGLY AGREE	AGREE	NOT SURE	DISAGREE	STRONGLY DISAGREE
93. I would become involved in an alcohol education class in our junior high school.	—	—	—	—	—
94. I would not care to participate in class discussions concerning alcohol problems in the community because they have nothing to do with the school.	—	—	—	—	—
95. I would not be interested in attending classes in which I was expected to participate in discussion on the problems of alcohol.	—	—	—	—	—
96. Class is not a place I want to talk about drinking problems.	—	—	—	—	—
97. I would not be interested in discussing alcohol problems in the elementary and junior high school classes because it is an adult problem.	—	—	—	—	—
98. I would not participate in discussions on preventing alcoholism.	—	—	—	—	—
99. I would seriously participate in school and community discussions on alternatives to alcohol use.	—	—	—	—	—
100. I do not want to discuss ways to develop personal plans to avoid alcohol abuse in situations most likely for me.	—	—	—	—	—
101. I would be willing to discuss two or three situations in which I would be most likely to abuse alcohol, and how I might avoid them.	—	—	—	—	—
102. I would not contribute to a discussion of ways to get students to stop drinking.	—	—	—	—	—
103. I would like to discuss things that would be more enjoyable than drinking.	—	—	—	—	—
104. I would not ride with a driver who had consumed eight drinks.	—	—	—	—	—
105. I would accept a ride home from one of my friends even if they had obviously been drinking.	—	—	—	—	—
106. When I need transportation, I will make my plans far enough ahead to avoid riding with a driver who has been drinking too much.	—	—	—	—	—
107. I wouldn't ever ride with a driver who appeared to be under the influence of alcohol.	—	—	—	—	—
108. I would go so far as to make up an excuse not to drive with someone who has had several drinks.	—	—	—	—	—
109. It would be too embarrassing to refuse to drive home with my date who had been drinking.	—	—	—	—	—

	STRONGLY AGREE	AGREE	NOT SURE	DISAGREE	STRONGLY DISAGREE
110. I would try to persuade a friend from accepting a ride from someone who had consumed 8 drinks.	—	—	—	—	—
111. I would not bother to try to discourage a friend from accepting a ride from someone who was obviously intoxicated.	—	—	—	—	—
112. I shall try to talk my friends out of riding with a driver who has been drinking.	—	—	—	—	—
113. After a party, I would try to prevent my friend from riding home with someone who obviously has had too much to drink.	—	—	—	—	—
114. It is none of my business to interfere with friends who want to drive after drinking.	—	—	—	—	—
115. I would not try to stop a friend from driving if he had too much to drink.	—	—	—	—	—
116. I think it is OK to drink until I stagger when out to have a good time.	—	—	—	—	—
117. I look forward to drinking to get drunk.	—	—	—	—	—
118. I can't wait for the next time my friends and I have a drinking contest to see who can consume the most.	—	—	—	—	—
119. When I am old enough to drive, I will plan to avoid driving if my ability has been impaired by alcohol.	—	—	—	—	—
120. If I thought I couldn't control my actions after drinking I would limit myself to one or two drinks.	—	—	—	—	—
121. At any one time, I would limit my drinking to two or three drinks.	—	—	—	—	—
122. I would ridicule someone if they refused a drink at a party.	—	—	—	—	—
123. I would not offer someone a drink if I knew he or she did not drink.	—	—	—	—	—
124. If everyone was drinking at a party except Andy I would try to persuade him to have a drink even if he didn't want one.	—	—	—	—	—
125. There are times when I will try to persuade someone to take a drink.	—	—	—	—	—
126. I'd insist a person have at least one drink with me when I'm celebrating.	—	—	—	—	—
127. As the host/hostess of a party I would provide soft drinks for those guests who do not use alcohol.	—	—	—	—	—
128. I will not make fun of or pressure a person who refuses to drink.	—	—	—	—	—

TABLE IV

PRELIMINARY KNOWLEDGE TESTS A AND B ITEM ANALYSES: CORRECTED DIFFICULTY INDICES AND POINT BISERIAL CORRELATIONS (BASED ON N's of 204 and 246 FOR A and B)

	FORM A		FORM B	
Item	Corrected difficulty	Point Biserial correlation	Corrected difficulty	Point Biserial correlation
1	45	.17	28	.35
2	19	.24	9	.14
3	51	.40	21	.41
4	30	.22	29	.27
5	3	.20	16	.02
6	40	.15	33	.29
7	4	.05	16	.06
8	20	.11	28	.44
9	35	.10	44	.31
10	42	.42	40	.33
11	64	.26	71	.33
12	15	.35	14	.32
13	16	.22	16	.07
14	60	.47	57	.58
15	44	.48	51	.57
16	56	.57	30	.48
17	0	.04	54	.34
18	2	-.03	1	-.20
19	15	.39	22	.38
20	0	-.04	17	.15
21	24	.06	56	.68
22	31	.41	37	.41
23	7	.34	23	.20
24	23	.35	14	.06
25	20	.37	14	.38
26	34	.51	43	.47
27	34	.22	46	.52
28	3	.06	21	.21
29	74	-.02	88	.30
30	12	.21	11	.05
31	70	.29	74	.16
32	52	.22	58	.43
33	41	.41	47	.29
34	74	.24	58	.20
35	13	.31	41	.28

(continued)

TABLE IV (continued)

Item	FORM A Corrected difficulty	FORM A Point Biserial correlation	FORM B Corrected difficulty	FORM B Point Biserial correlation
36	51	.42	35	.48
37	58	.40	54	.54
38	52	.18	60	.15
39	66	.30	77	.20
40	46	.33	50	.15
41	38	.37	56	.38
42	66	.22	60	.18
43	62	.43	56	.08
44	74	.36	0	.05
45	63	.38	51	-.03
46	38	.32	43	.50
47	13	-.05	50	.27
48	49	.27	18	.35
49	52	.32	71	.34
50	63	.30	79	.30
51	68	.46	70	.33
52	61	.41	0	.08
53	54	.27	76	.15
54	53	.20	62	.28
55	61	.30	69	.24
56	35	.44	36	.33
57	65	.33	86	.24
58	42	-.04	55	.13
59	40	.22	63	.28
60	54	.29	61	.19
61	38	.24	42	.41
62	64	.38	61	.08
63	22	.24	67	.41
64	18	.33	65	.40

TABLE V

FINAL TEST BATTERY ITEMS SELECTED FROM PRELIMINARY KNOWLEDGE INSTRUMENTS FOR EACH OF THE 16 KNOWLEDGE OBJECTIVES WITH POINT BISERIAL CORRELATIONS AND CORRECTED DIFFICULTY LEVELS

Objective	Form A	Form B	Pt. Bis.	Corr. Diff.	Also: Form A	Form B	Pt. Bis.	Corr. Diff.
	3		.40	51		1	.35	28
1		3	.41	21		29	.30	88
	31		.29	70	4		.21	30
2		4	.27	29	30		.21	12
	33		.41	41		6	.29	33
3		32	.43	58		33	.29	47
		8	.44	28	35		.31	13
4		9	.31	44		35	.28	41
	10		.42	42	36		.42	51
5		37	.54	54		36	.48	35
	41		.37	38	39		.30	66
6		41	.38	56	40		.33	46
	43		.43	62	44		.36	74
7		46	.50	43	45		.38	63
	12		.35	15		12	.32	14
8		11	.32	71		47	.27	50
	15		.48	44	14		.47	60
9		15	.57	51		14	.58	57
	16		.57	56	51		.45	68
10		16	.48	30		17	.34	54
	19		.39	15		19	.38	22
11	52		.41	61		20*	.15	17
	22		.41	31		22	.41	37
12		21	.68	56		54	.28	62
	25		.37	20	23		.34	7
13		25	.38	14	24		.35	23
	26		.51	34	56		.44	35
14		26	.47	43		56	.33	36
		27	.52	46	60		.29	54
15		61	.41	42		59	.28	63
		63	.40	67	62		.38	64
16		64	.40	65	64		.32	18

* Item was revised.

TABLE VI

ITEM ANALYSIS SUMMARY (USING t-TEST) FOR PRELIMINARY ATTITUDE AND BEHAVIOR ITEMS, BY OBJECTIVE, INDICATING ITEMS SELECTED FOR FINAL TEST BATTERY

Objective	Item	t Value	Objective	Item	t Value	Objective	Item	t Value
	1	-1.37		32	-6.50*		9	-4.76
	33	-5.21*		54	-1.15		10	-4.97
	34	-1.05		55	-5.65		68	-6.01*
	35	0.13		56	-5.10		69	-6.41*
17	36	-3.99*	20	57	-10.53*	23	70	-5.14
	37	-3.67*		58	-5.19		71	-6.49*
	38	-2.74*		59	-7.09*		72	-5.34*
	39	-2.42		60	-6.20*		73	-3.36
	2	-3.36		5	-3.13		12	-2.02
	40	-5.67*		61	-6.25		13	-5.32*
	41	-5.56*		62	-6.14		80	-4.21
	42	-3.56*		63	-8.34*		81	-5.29
18	43	-1.71	21	64	-8.68*	24	82	-5.34*
	44	-3.32		65	-6.41		83	-6.98*
	45	-3.46		66	-3.46		84	-5.16
	46	-5.01		67	-6.88*		85	-9.50*
	3	-3.38		6	1.76		14	-2.71
	47	-4.84		8	-6.26*		16	-3.56
	48	-5.32		74	-2.21*		86	-7.69*
19	49	-6.73*	22	75	-1.29	25	87	-4.21*
	50	-7.34*		76	-0.91		88	-3.75
	51	-6.04*		77	-1.37*		89	-7.67*
	52	-5.19		78	-3.54*		90	-7.32*
	53	-6.47*		79	0.26		91	-2.68
- - - - - - - -	Attitude Objectives							- - - - - - - - - - - -
	Behavior Objectives							
	17	-3.67		22	-5.03		28	-2.79
	18	-3.62		24	-5.87		29	-3.30*
	92	-6.05*		104	-6.25*		116	3.89
	93	-3.78		105	-3.80		117	2.68
26	94	-8.96*	28	106	-6.05*	30	118	3.76
	95	-3.99		107	-7.89*		119	-6.10*
	96	-4.83*		108	-6.45*		120	-5.96*
	97	-6.03*		109	-3.23		121	-4.81*
	20	-3.05		25	-8.15*		30	-5.55*
	21	-5.46		26	-4.42		122	2.67
	98	-6.64*		110	-4.44*		123	-3.23*
	99	-5.31		111	5.69		124	5.22
27	100	-6.69*	29	112	-6.23*	31	125	4.56
	101	-5.59*		113	-4.67*		126	1.85
	102	-7.01*		114	5.28		127	-3.19*
	103	-3.60		115	6.44		128	-5.15*

* Item selected for final test battery.

TABLE VII

TEST BATTERY SCORING KEY BY ITEM, INDICATING ASSOCIATED OBJECTIVE

Item Number	Form A		Form B		Form C		Form D	
	Key	Objective	Key	Objective	Key	Objective	Key	Objective
1	3	2	1	15	4	5	3	8
2	4	1	3	1	3	8	4	12
3 Multi-	2	4	4 Multi-	2	5 Multi-	9	4 Multi-	9
4 Choice	3	10	2 Choice	8	3 Choice	11	2 Choice	10
5	5	13	4	9	5	13	5	1
6	5	12	4	10	4	14	1	3
7	4	11	5	11	1	1	4	13
8	2	9	2	12	1	2	4	4
9	1	8	2	14	1	12	2	2
10	1	15	1	13	1	4	1	7
11	2	7	1	6	1	7	1	16
12	1	5	2	5	2	3	2	14
13	1	16	2	4	2	15	2	6
14 True	1	14 True	2	7 True	2	6 True	1	15
15 False	2	3 False	1	3 False	2	10 False	2	11
16	2	6	2	16	1	16	2	5
17		LIE	R	26		18	R	23
18		18	R	LIE	R	27		29
19	R	LIE		23		26	R	17
20		LIE		LIE		24	R	20
21	R	20	R	LIE	R	20	R	18
22	R	24		28		31		22
23	R	22		31		23		28
24	R	21	R	25		30	R	19
25		17		LIE	R	21	R	25
26	R	23		30	R	25		27
27		30	R	27		29	R	26
28		31	R	21		28		31
29	R	26		22		LIE	R	30
30		28	R	20		LIE	R	24
31		29		18		19		LIE
32	R	19	R	24	R	LIE	R	LIE
33	R	LIE		29	R	22	R	21
34	R	27	R	19		17	R	LIE
35		25		17	R	LIE		LIE

R indicates reversed coding required to make scale direction consistent (i.e., 5=1, 4=2, 2=4, 1=5)

TABLE VIII

LOCATION OF ITEMS IN TEST BATTERY, BY OBJECTIVE

General Objective	Specific Objective	Form A	Form B	Form C	Form D
1	1	2	2	7	5
	2	1	3	8	9
	3	15	15	12	6
	4	3	13	10	8
2	5	12	12	1	16
	6	16	11	14	13
3	7	11	14	11	10
	8	9	4	2	1
	9	8	5	3	3
	10	4	6	15	4
	11	7	7	4	15
4	12	6	8	9	2
	13	5	10	5	7
5	14	14	9	6	12
	15	10	1	13	14
	16	13	16	16	11
6	17	25	35	34	19
	18	18	31	17	21
7	19	32	34	31	24
	20	21	30	21	20
	21	24	28	25	33
	22	23	29	33	22
	23	26	19	23	17
8	24	22	32	20	30
	25	35	24	26	25
9	26	29	27	19	27
	27	34	27	18	26
10	28	30	22	28	23
	29	31	33	27	18
	30	27	26	24	29
	31	28	23	22	28

ACTUAL TEST BATTERY ITEMS ASSOCIATED WITH EACH OBJECTIVE, BY FORM (A, B, C, D)

Objective 1: Students will be able to describe the relationship between traffic accidents and alcohol consumption.

A. On the basis of present-day knowledge, the greatest driver-related cause of highway deaths is:
   (a) emotional upsets
   (b) inattention
   (c) fatigue
   (d) alcohol
   (e) lack of experience

B. When a non-drinking driver is compared with a driver who is legally drunk, about how much more likely is it that the drunken driver will become involved in a traffic accident?
   (a) no more likely
   (b) 5-10 times more likely
   (c) over 25 times more likely
   (d) no one knows

C. The more you drink before driving, the worse you drive.

D. Alcohol is a factor in approximately what percentage of fatal automobile crashes?
   (a) 10
   (b) 20
   (c) 30
   (d) 40
   (e) 50

Objective 2: Students will be able to identify the reasons alcohol consumption poses particular risks for teenage drivers.

A. Which of the following are true?
   (a) Teenagers drive better after drinking than adults do after drinking, because teenagers have better reaction time.
   (b) Teenagers usually "handle" alcohol better than do adults.
   (c) Teenagers drink alcohol for many of the same reasons that adults drink alcohol.
   (d) All of the above
   (e) None of the above

B. Driving behavior of teenagers compared to adults is more likely to be influenced by the same amount of alcohol because teenagers are:
   (a) less experienced as drivers
   (b) less experienced as drinkers
   (c) less experienced at driving after drinking
   (d) a bit of all of the above
   (e) none of the above

C. In proportion to other age groups, teenagers have more alcohol related traffic fatalities.

D. Because of their youth teenagers who have been drinking maintain better control of their cars than older people.

Objective 3: Students will be able to describe the relationship of alcohol intake to BAC.

A. The slower one drinks, the faster the increase of alcohol in the blood.

B. The faster one drinks, the faster the increase of alcohol in the blood.

C. Once a person is drunk, further drinking will not increase the amount of alcohol in his/her blood.

D. What does "blood alcohol concentration" mean?
(a) percentage of alcohol in a person's blood stream
(b) ounces of alcohol that have been consumed in a given time period
(c) a level of alcohol in the blood which causes intoxication
(d) all of the above
(e) none of the above

Objective 4: Students will be able to identify the BAC at which they can be arrested for drunken driving.

A. At which percentage of alcohol in the blood is one considered to be driving while intoxicated?
(a) .02
(b) .10
(c) .50

B. When the alcohol content of a person's blood reaches 0.02% the individual is legally "under the influence."

C. In most states the blood alcohol level at which a driver is assumed to be impaired is .10%.

D. Which of the following is of most value in determining how drunk a driver is?
(a) opinion of the arresting policeman
(b) opinion of witnesses
(c) speech test
(d) breath analysis
(e) walking a straight line

Objective 5: Students will be able to recognize how drinking adversely affects driving skill.

A. As few as two drinks can cause driving performance to deteriorate somewhat.

B. A driver will have better coordination after a few drinks.

C. Which of the following best describes the most serious effect of alcohol on driver performance?
(a) blurs vision
(b) reduces hearing ability
(c) increases attention span
(d) reduces ability to react quickly

D. A person with a blood alcohol level a little below the legal limit for intoxication probably is able to drive safely, even in emergencies.

Objective 6: Students will be able to identify the extent of and techniques used to advertise alcoholic beverages:

A. Ads for alcohol sometimes show persons with hangovers.

B. Ads for beer and whiskey usually show those drinking having lots of fun.

C. Liquor ads frequently show persons arguing and fighting.

D. Ads for alcoholic beverages show both good and bad aspects of drinking.

Objective 7: Students will be able to describe effects of advertising alcoholic beverages.

A. While males usually are influenced by ads for alcoholic beverages females usually are not.

B. Liquor ads only attract older people.

C. Ads for alcohol tend to make persons think it is good.

D. Ads for alcohol tend to increase sales for alcoholic beverages.

Objective 8: Students will be able to identify the comparative amounts of alcohol in commonly used beverages.

A. A six ounce glass of wine has more alcohol than a six ounce glass of beer.

B. A beverage that is "100 proof" contains what percentage of alcohol?
(a) 25
(b) 50
(c) 75
(d) 100
(e) there is no such proof

C. What per cent of 80 proof whiskey is pure alcohol?
(a) 80
(b) 60
(c) 40
(d) 20
(e) per cent cannot be determined by proof

D. If a person were to drink 8 ounces of each of the following, which one would cause him to become "high" fastest?
(a) wine
(b) beer
(c) whiskey
(d) ale
(e) all of the above are about the same

Objective 9: Students will be able to categorize alcohol as a drug.

A. What do alcohol and "downers" have in common?
(a) they can be bought by anyone
(b) they are both depressants
(c) most adults use them
(d) they only come in liquid form

B. Which does *not* contain a drug:
(a) cigarette
(b) beer
(c) sleeping pill
(d) orange juice
(e) a, b, and c

C. Which of the following does not contain a drug?
(a) aspirin
(b) beer
(c) "pot"
(d) coffee
(e) ginger ale

D. Which of the following are drugs?
(a) heroin
(b) LSD
(c) alcohol
(d) all of the above
(e) a and b

Objective 10: Students will be able to describe the food value of alcohol.

A. From the standpoint of nutrition, an alcoholic beverage is:
(a) an excellent food
(b) well balanced, but fattening
(c) high in calories but low in vitamins and minerals

B. Which is true?
(a) Alcohol is mostly fat.
(b) Alcohol contains some protein.
(c) Beer is almost as nutritious as milk.
(d) None of the above.

C. Science has shown that alcohol is a necessary food.

D. Which most accurately describes the food value of alcohol?
(a) high protein, low calorie
(b) high calorie, little food value
(c) high calorie, high vitamin content
(d) high vitamin and mineral content, low protein
(e) low calorie, low vitamin content

Objective 11: Students will be able to state that the oxidation rate of alcohol is controlled by time alone.

A. For each one ounce of whiskey, the minimum time a person should wait before driving is:
(a) need not wait
(b) 10 minutes
(c) 20 minutes
(d) 1 hour
(e) 3 hours

B. The quickest way to become sober is to:
(a) drink black coffee
(b) drink hot tea
(c) take a cold shower
(d) go out in the fresh air
(e) stop drinking

C. Which would "sober someone up" if he/she wanted to drive?
(a) black coffee
(b) a cold shower
(c) time
(d) vigorous exercise
(e) none of the above

D. As soon as a person stops drinking he/she sobers immediately.

Objective 12: Students will be able to describe the temporary effect of alcohol on the mind and body.

A. Which of the following effects can alcohol produce?
(a) risk taking
(b) depression (sadness)
(c) relaxation
(d) happy feelings
(e) all of the above

B. Which best describes the effects of alcohol?
(a) speeds up reflexes, improves judgment and control
(b) worsens vision, reduces judgment and control
(c) worsens vision, improves judgment and control
(d) slows reflexes, improves judgment and control

C. Judgment is one of the first functions affected by alcohol.

D. Three to five ounces of whiskey on an empty stomach will make the average person:
(a) think he can do things that he cannot actually do
(b) believe he is performing better than he really is
(c) less sure of himself
(d) a and b
(e) all of the above

Objective 13: Students will be able to identify factors determining the differential influence of alcohol on any given individual.

A. Which of the following influences the effects of alcohol?
   (a) the amount of food in the stomach
   (b) the body weight of the person
   (c) the mood of the individual
   (d) a and b
   (e) a, b, and c

B. Which of the following is true about the effects produced by a given quantity of alcohol?
   (a) effects are less with a full stomach
   (b) effects are more lasting in the afternoon than at night
   (c) intoxicating effects occur even before the alcohol is absorbed into the blood
   (d) all of the above
   (e) effects in a given person are the same at all times

C. Which of the following will affect how a person behaves when drinking?
   (a) the situation he's drinking in (party, alone, etc.)
   (b) his mood before he started drinking
   (c) his drinking experience
   (d) his attitude toward whether drinking is "good" or "bad"
   (e) all of the above

D. Which of the following may affect how a given dose of alcohol may influence a person?
   (a) previous experience with alcohol
   (b) emotional state
   (c) intelligence
   (d) a and b

Objective 14: Students will be able to identify signs and symptoms of problem drinking.

A. Drunkenness on the part of an individual clearly shows that he is addicted to alcohol.

B. A person suffering from alcoholism is:
   (a) always drunk
   (b) unable to control how much he drinks
   (c) usually unemployed
   (d) often a "skid row" bum
   (e) all of the above

C. Problem drinking affects the:
   (a) individual
   (b) family
   (c) society
   (d) all of the above

D. Drunkenness and alcoholism are one and the same.

Objective 15: Students will be able to state that alcoholism is an illness.

A. Alcoholism is one of the most serious illnesses in the United States.

B. According to recent statistics alcoholism is:
(a) one of the most serious illnesses in our country
(b) less prevalent than in previous years
(c) not a serious problem in the U.S.
(d) none of the above

C. Alcoholism cannot really be called a disease.

D. Alcoholism is a complicated illness.

Objective 16: Students will be able to identify resources available for help with drinking problems.

A. A.A. groups can be found in most communities or nearby.

B. There are only a few AA groups available to the alcoholic.

C. Health Education teachers can be used as resources for providing information to students concerning problems related to alcohol use.

D. There are organizations available for family members of the alcoholic.

Objective 17: Students will be able to judge that advertising generally encourages drinking.

A. I believe that advertisments try to get people to drink more.

B. Alcohol advertising is intended to encourage one to drink.

C. Most alcohol advertising makes drinking look like fun.

D. Advertising has little effect on one's decision to drink.

Objective 18: Students will be able to judge the peers influence drinking behavior.

A. Most teenagers are embarrassed to refuse when pressured to drink by their peers.

B. Many persons drink just because their friends do.

C. When one's classmates and friends drink the pressure is on him or her to join them.

D. Friends don't have much influence on one's drinking patterns.

Objective 19: Students will be able to judge the desirability of drinking when done to escape reality.

A. Sometimes drinking can make problems easier to handle.

B. It is OK to drink to escape from the monotony of your everyday routine.

C. I feel that you should not drink if the reason is that things went wrong for you.

D. Drinking enough booze can make problems disappear.

Objective 20: Students will be able to judge the desirability of drinking when done to emulate adults.

A. Drinking as much as adults and holding it well is a sign of being grown up.

B. I think that drinking to "be an adult" could be a wise decision for most people.

C. It is OK to drink to help you feel grown up.

D. Drinking is alright if done to imitate parental drinking patterns.

Objective 21: Students will be able to judge the desirability of drinking when done to reduce emotional stress.

A. Persons who drink when they are nervous and under stress are doing themselves a favor.

B. It is OK to drink to better cope with problems.

C. Drinking large amounts which would be unacceptable at other times is OK when under a great deal of pressure.

D. It is OK to drink if it helps you feel more relaxed.

Objective 22: Students will be able to judge the desirability of drinking when done in moderation at festive and ceremonial occasions.

A. While drinking enough to lose control of behavior is "bad news" weddings and other celebrations are exceptions and you can really let yourself go.

B. A wedding toast with alcohol is a most acceptable gesture to the bride and groom.

C. It is really bad for churches to use wine during ceremonies.

D. When attending a party at a friend's house it is best to have not more than one drink per hour.

Objective 23: Students will be able to judge the desirability of drinking when done before driving.

A. It is OK to drive after drinking if one does not "feel" drunk.

B. One who has just finished several quick drinks should not drive for a while.

C. Drunken driving is undesirable for the community as well as for the individual.

D. Driving after 3 or 4 drinks is OK provided one is an experienced driver.

Objective 24: Students will judge that it is worthwhile to assess personal drinking behavior.

A. I believe that for most people it would be a waste of time to try to understand how drinking influences their lives.

B. I don't think it would make sense for me to determine what effects my drinking has on my family or on my behaviors.

C. It is important for me to determine what effects alcohol would have on my driving, schooling, working and other aspects of my future.

D. I feel that it would be useless for me to examine my drinking habits.

Objective 25: Students will judge that it is worthwhile to assess ways to prevent driving-while-intoxicated.

A. In a drinking society, alcohol education for drivers is as important as driver education.

B. I think it's not worth the effort to try and avoid getting into drunken driver situations.

C. It makes no sense to try to determine how to prevent getting into a drunken driving situation.

D. It is a waste of time to assess the various approaches used to prevent drunken driving.

Objective 26: Students would be willing to participate in discussions in class on the problems of alcohol in the school, community, and home.

A. I would not care to participate in class discussions concerning alcohol problems in the community because they have nothing to do with the school.

B. I would not be interested in discussing alcohol problems in the elementary and junior high school classes because it is an adult problem.

C. I am willing to participate in class discussions on the problems of alcohol.

D. Class is not a place I want to talk about drinking problems.

Objective 27: Students would be willing to participate in discussions exploring alternatives to alcohol use or misuse.

A. I would not contribute to a discussion of ways to get students to stop drinking.

B. I would not participate in discussions on preventing alcoholism.

C. I do not want to discuss ways to develop personal plans to avoid alcohol abuse in situations most likely for me.

D. I would be willing to discuss two or three situations in which I would be most likely to abuse alcohol, and how I might avoid them.

Objective 28: Students would be willing to refrain from riding with drivers whose ability has been impaired by alcohol.

A. I would go so far as to make up an excuse not to drive with someone who has had several drinks.

B. I would not ride with a driver who had consumed eight drinks.

C. I wouldn't ever ride with a driver who appeared to be under the influence of alcohol.

D. When I need transportation, I will make my plans far enough ahead to avoid riding with a driver who has been drinking too much.

Objective 29: Students would be willing to attempt to prevent others from riding as passengers with a driver impaired by alcohol.

A. I would try to persuade a friend from accepting a ride from someone who had consumed 8 drinks.

B. I shall try to talk my friends out of riding with a driver who has been drinking.

C. After a party, I would try to prevent my friend from riding home with someone who obviously has had too much to drink.

D. If it is practical I will attempt to prevent others from riding with a driver whose ability has been impaired by alcohol.

Objective 30: Students would be willing to avoid drinking to the extent of losing behavioral control.

A. When I am old enough to drive, I will plan to avoid driving if my ability has been impaired by alcohol.

B. If I thought I couldn't control my actions after drinking I would limit myself to one or two drinks.

C. At any one time, I would limit my drinking to two or three drinks.

D. I wouldn't mind losing control of my behavior as a result of drinking so long as I am not in any physical danger.

Objective 31: Students would be willing to respect a person's right not to drink.

A. As the host/hostess of a party I would provide soft drinks for those guests who do not use alcohol.

B. I will not make fun of or pressure a person who refuses to drink.

C. I would call a person who chooses not to drink "antisocial."

D. I would not offer someone a drink if I knew he or she did not drink.

INSTRUCTIONS FOR TEACHERS FOR EVALUATION COMPONENT OF STUDY

JHS MODULE IN ALCOHOL AND TRAFFIC SAFETY

In order to assess the effectiveness of the Module, test batteries are administered to students before and after the completion of the Module. The test batteries contain items which relate to the Module's objectives. Because of the nature of the test batteries, it is essential that you have some understanding of how they were developed and how they will work, and what procedures must be followed to allow their successful application. Thus, two sections of information are herein provided: (1) What you should know about the tests, and (2) What you must do with them.

What You Should Know

There are four forms of the test instrument: Form A, Form B, Form C, Form D. Each is different. Essentially, each contains an item relating to each of the specific objectives -- knowledge, attitudinal, or behavioral intention -- of the Module. In addition, each form contains several items designed to tell us whether the respondent is being truthful or is trying to misrepresent him/herself and come across in a more favorable way. These items are helpful because the attitude and behavioral intention items are often quite transparent and answers are subject to "telling them what they want to hear" on the part of respondents.

Forms were carefully developed by creating or adapting and editing several hundred items that related to Module objectives, trying them out on several hundred junior high school students, and selecting the best items for the final forms through a statistical item analysis.

By dividing the total items into four forms, it is possible to administer more items in less time. The tests are assembled and delivered to you in ways designed to facilitate distribution and administration. When you inspect them, you will notice that they are organized in sequence in packets of threes: Forms A, B, and C; Forms B, C, and D; Forms C, D, and A; Forms D, A, and B. Each successive group of four packets is in the order described. A packet of three forms comprises pretest and two posttests. Packets are organized with different forms to insure that students take different forms on different testing occasions. Thus, if a student gets a packet of Forms A, B, and C, Form A is the pretest, Form B is the first posttest and Form C is the second posttest. This should be clear because Form A is the first in the packet and has printed on the lower left hand corner a "I", while B is second in the packet and is printed with a "II", and C is third and printed "III". The other three packets are organized similarly and printed "I", "II", and "III" as described. Further, the three forms are attached in an offset manner which permits you to see at a glance that there are three forms, one printed "I", one "II" and one "III".

Following test administration, it is possible, using a technique called multiple matrix sampling, to apply statistics to yield results as if all persons received all four forms of items.

These considerations make it important that the procedures outlined below are followed closely.

What You Must Do

A supply of test forms sufficient for your needs will be hand delivered to you by a cooperating AAA field representative. The pretest should be administered at least a day or two before Lesson One of the Module. The procedural steps associated with pretesting are numbered 2-6 below, those with posttesting

are numbered 8-15. Step 1 should be done in advance of pretesting.

1. Remove the coding form from the package of test batteries. Note that the coding form contains numbers 001 to the number of test forms in your package, which corresponds to the numbering on the actual test batteries. Assign each of your students a number by writing his/her name on the form on the line next to a code number.

2. Distribute test forms by having the student come up when his/her name is called. By reading the names from the coding form in numerical order, you can facilitate getting the correctly coded test battery to each student (as batteries are stacked in numerical order). Be sure that each student gets the test battery with the same number that was assigned to him/her on the coding form.

3. Ask students to separate forms by pulling them apart at the center staple. Demonstrate this on one packet for the class to see.

4. Ask students to hold up the forms printed "II" and "III" getting them ready for collection as you pass by while you walk around the room and collect them. Check carefully every form as you collect it. It is critical that you collect a form printed "II" and a form printed "III" from every student, leaving them with the form printed "I". This step is extremely important. After collecting, these forms are to be separated into piles printed "II" (the first posttest form) and "III" (the second posttest form). Each pile is then ordered numerically and stored safely until needed after the Module is over.

5. Direct students to read the instructions on the form printed "I" and to proceed to complete the test forms. When completed, collect and organize them numerically by code number to be stored until after the first posttests are completed.

6. Note which students were absent for the pretests and be prepared to administer make-ups to them if they come in before the Module begins, and if time permits. In administering make-ups, follow the procedures described above.

\# # # #

7. For experimental groups, the Module is implemented after step 6. For control groups no Module is given.

\# # # #

8. Upon completion of the Module, distribute the first posttests (these are the forms printed "II" which were collected in step 4 above) by having the student come up and receive it when his/her name is called. This is done as in step 2 by reading names from the coding form which are in numerical order as are the posttests.

9. Direct students to read the instructions on the forms printed "II" and to proceed to complete the test forms. When completed, collect forms and collate them with completed pretest forms printed "I" (which you stored in step 5) so that you have a package of numerically ordered test forms, with two forms for each student. You should then staple both forms for each student together, with the one printed "I" on top of the one printed "II".

10. Note which students were absent for the first posttests (you will have their papers with their code numbers which you can identify from the coding form) and be prepared to administer make-ups to them over the next few days following the conclusion of the Module. In administering make-ups, follow steps 8 and 9 above.

11. Assemble the package to contain batteries only from students who have completed both pretest and posttest forms. Be prepared to give the completed, collated (forms printed "I" and "II"), stapled test forms, numerically ordered, to the cooperating AAA club representative when he comes by at the mutually agreed upon time. You will retain the uncompleted pile of tests printed "III" for the second posttest. You will also retain the coding form with this pile so that you can get the correct test to each student. On the coding form, circle the code numbers for which pre/post tests were included in the package given to the AAA representative. We will only be wanting second posttests from these circled code numbers.

12. The second posttest forms (these are the forms printed "III" which were collected in step 4 above) are to be administered <u>eight weeks</u> after the conclusion of the Module. You should note this on your calendar. When the time arrives, distribute forms by having the student come up and receive it when his/her name is called. This is done as in step 2 by reading names from the coding form which are in numerical order as are the second posttest forms (which you did in step 4).

13. Direct students to read the instructions on the forms printed "III" and to proceed to complete them. When completed, collect forms, and order numerically.

14. Note which students were absent for the second posttest (you will have their papers with their code numbers which you can identify from the coding form) and be prepared to administer make-ups to them over the next few days. Don't bother trying to get a make-up unless the student has completed pre/post tests earlier (code number should have been circled). In administering make-ups, follow the procedures above.

15. Assemble the final package to contain test forms printed "III" only from those who have earlier completed the pre/post battery, and for whom you have earlier delivered completed test forms (your circled code numbers on the coding form done in step 11 is your record of this). Be prepared to give the completed forms printed "III", numerically ordered, to the cooperating AAA Club representative when he stops by at a mutually agreed upon time. You need not include the coding form, and thus this package of completed forms (as was the earlier package) is totally anonymous and individual students totally protected.

Strict adherence to these testing procedures will minimize difficulties. Your role is obviously vital in seeing that they are followed. These procedures will permit analysis which will be a major part of the Module evaluation. While it will not be possible to supply you with results relating to your specific class, you will be able to obtain from your AAA Club representative a report which will include your class in results of the nationwide evaluation. This report should be available in Summer 1977.

Thank you for your cooperation in your important role in this study.

TABLE IX

RESULTS: OVERALL KNOWLEDGE, ATTITUDE, BEHAVIORAL INTENTION

State	Administration	KNOWLEDGE Mean	Variance	Standard Error	Estimated Reliability	t*	ATTITUDE Mean	Variance	Standard Error	Estimated Reliability	t*	BEHAVIOR Mean	Variance	Standard Error	Estimated Reliability	t*
	Exp Pre	37.59	51.93	.54	.77	-1.26	118.53	181.24	2.51	.81	-0.38	91.74	103.04	2.58	.79	1.61
CA	N=444 Post	44.26	90.67	.86	.88		119.17	194.45	1.29	.84		90.93	104.65	1.63	.83	
	Cont Pre	38.37	54.53	.74	.78		118.96	175.57	3.94	.79		90.36	94.58	2.25	.73	
	N=201 Post	38.77	61.81	.41	.81	7.15[3]	121.32	241.04	3.21	.85	-1.75	86.18	116.51	1.16	.79	5.38[3]
	Exp Pre	36.78	56.74	.82	.78	-0.59	119.89	244.78	3.28	.85	1.26	92.42	105.68	3.34	.78	-0.99
FL	N=289 Post	40.40	109.58	.80	.89		114.16	241.23	2.18	.87		87.44	92.36	0.81	.78	
	Cont Pre	37.47	35.07	1.14	.69		116.82	149.53	2.93	.76		94.04	89.90	4.77	.90	
	N= 45 Post	38.45	71.56	1.07	.83	1.19	112.07	302.06	5.63	.90	0.83	88.72	165.28	0.84	.87	-0.54
	Exp Pre	42.18	68.54	.90	.84	1.87	121.19	209.12	3.21	.84	1.85	88.80	101.30	1.87	.81	-1.91
MO	N=300 Post	45.61	67.19	.70	.84		121.47	219.27	1.74	.85		92.88	104.78	3.02	.82	
	Cont Pre	40.33	77.88	.68	.86		118.12	176.70	1.09	.82		90.96	68.00	2.73	.70	
	N= 96 Post	40.36	77.87	1.00	.86	5.36[3]	117.91	198.35	3.31	.85	2.08[1]	93.13	105.88	4.13	.81	-0.21
	Exp Pre	40.74	47.92	.62	.76	3.80[3]	119.31	153.71	1.84	.77	0.70	86.97	80.84	0.71	.73	-7.61[3]
NY	N=682 Post	47.16	71.41	.80	.86		125.47	167.72	3.22	.82		94.08	89.50	3.18	.80	
	Cont Pre	38.35	55.04	.34	.78		118.52	187.40	2.60	.82		92.95	60.36	1.40	.71	
	N=153 Post	39.48	73.83	.71	.84	10.13[3]	121.64	235.77	2.67	.86	3.19[2]	91.01	128.04	1.77	.85	3.49[3]
	Exp Pre	39.91	48.89	.28	.76	2.12[1]	123.55	182.78	2.40	.80	1.98[1]	94.61	133.66	3.60	.85	1.50
OK	N=281 Post	47.04	59.05	.48	.83		122.47	241.37	1.12	.87		92.72	94.01	1.63	.79	
	Cont Pre	37.89	51.38	1.27	.78		119.90	192.28	2.73	.80		92.29	116.29	3.87	.79	
	N= 67 Post	37.38	64.25	1.38	.81	9.16[3]	114.83	285.41	1.69	.86	3.56[3]	86.67	105.68	2.08	.81	4.54[3]
	Exp Pre	41.52	36.74	.68	.70	0.91	125.28	131.14	2.51	.74	-1.85	96.10	60.49	4.00	.63	1.85
PA	N=304 Post	47.39	58.02	1.00	.83		128.12	207.25	2.44	.85		97.34	109.78	3.63	.83	
	Cont Pre	40.97	24.70	.57	.53		127.48	123.88	3.42	.73		94.58	63.24	3.15	.66	
	N=130 Post	40.68	72.41	.80	.84	8.11[3]	121.33	214.06	2.58	.86	4.48[3]	92.22	109.96	2.92	.81	4.66[3]
	Exp Pre	41.63	66.50	.69	.83	-0.54	122.14	210.46	3.22	.84	3.07[2]	93.13	119.59	3.68	.82	0.53
VA	N=504 Post	45.29	95.01	.50	.89		120.11	212.25	0.93	.84		87.17	112.24	0.67	.82	
	Cont Pre	42.10	60.47	.31	.81		117.52	173.53	3.19	.77		92.54	77.25	2.96	.74	
	N=110 Post	42.89	68.24	.42	.84	2.39[1]	114.40	268.90	1.64	.88	3.64[3]	91.08	103.15	2.71	.82	-3.53[3]
	Exp Pre	40.16	56.03	.18	.79	2.43[1]	118.72	184.32	1.91	.81	-3.00[2]	94.58	97.94	3.92	.78	4.80[3]
Total	N=3083 Post	45.52	82.23	.59	.87		123.97	210.52	2.54	.85		95.11	99.93	3.80	.81	
	Cont Pre	39.47	52.07	.24	.77		120.26	177.55	2.62	.80		92.82	77.16	2.70	.71	
	N= 895 Post	39.86	69.68	.19	.83	16.69[3]	121.51	243.27	3.66	.86	4.39[3]	93.42	110.36	3.82	.80	4.39[3]

1 $p < .05$
2 $p < .01$
3 $p < .001$

*For each site the first t value is associated with a statistical test of the difference between mean scores on pretest measures for experimental and control groups; the second t value is associated with a comparable test on posttest measures.

TABLE X

RESULTS: GENERAL OBJECTIVES 1-10

State	Administration	GENERAL OBJECTIVE 1 Mean	Variance	Standard Error	Estimated Reliability	t*	GENERAL OBJECTIVE 2 Mean	Variance	Standard Error	Estimated Reliability	t*	GENERAL OBJECTIVE 3 Mean	Variance	Standard Error	Estimated Reliability	t*
	Exp Pre	9.41	4.70	.65	.34	-1.05	5.10	3.86	.50	.66	-1.55	11.36	8.04	.48	.59	-0.23
CA	N=444 Post	10.95	6.96	.63	.60		5.83	4.41	.42	.77		14.13	9.58	.38	.65	
	Cont Pre	9.60	3.56	.63	**		5.35	3.28	.60	.68		11.42	7.04	.83	.52	
	N=201 Post	9.51	2.70	.66	**	7.09[3]	5.11	4.02	.40	.73	4.13[3]	11.89	8.81	.81	.61	8.66[3]
	Exp Pre	9.03	3.46	.62	.14	-3.93[3]	4.74	3.93	.82	.70	0.06	11.45	7.10	.34	.49	-0.22
FL	N=289 Post	9.69	7.69	.93	.61		5.19	4.00	.58	.73		12.97	13.40	.32	.74	
	Cont Pre	10.12	0.02	.50	**		4.72	2.53	.32	.38		11.55	6.74	.37	.60	
	N= 45 Post	9.34	7.88	.99	.72	0.79	5.30	1.99	.66	.80	-0.38	12.27	5.81	.54	.53	1.25
	Exp Pre	10.29	3.06	.72	**	0.33	5.53	3.58	.40	.72	1.52	13.18	10.31	.58	.68	4.13[3]
MO	N=300 Post	11.20	4.79	.52	.41		6.10	2.53	.60	.54		14.51	9.59	.34	.68	
	Cont Pre	10.22	3.73	.58	.21		5.20	3.02	.60	.67		11.69	6.64	.60	.57	
	N= 96 Post	9.53	9.25	.49	.70	5.89[3]	5.33	4.94	.59	.80	3.74[3]	12.70	9.74	.64	.73	4.95[3]
	Exp Pre	9.83	3.38	.54	**	2.47[1]	5.62	2.35	.72	.50	3.38[3]	12.30	7.71	.54	.58	0.59
NY	N=682 Post	11.42	4.23	.60	.41		6.23	3.01	.51	.69		15.46	8.69	.40	.67	
	Cont Pre	9.41	4.91	.64	.40		5.12	4.57	.57	.75		12.17	3.61	.83	.17	
	N=153 Post	9.34	5.63	.67	.54	10.91[3]	5.24	3.06	.66	.63	6.43[3]	12.27	7.78	.37	.59	12.18[3]
	Exp Pre	10.11	4.35	.72	.29	1.15	5.27	3.27	.75	.73	2.45[1]	11.84	4.18		.26	0.77
OK	N=281 Post	11.69	4.42	.73	.41		6.16	1.97	.55	.56		14.76	8.43		.64	
	Cont Pre	9.77	4.95	.62	.57		4.66	3.68	.82	.78		11.63	4.43	1.25	.32	
	N= 67 Post	9.02	4.87	.75	.41	9.21[3]	4.84	4.91	.57	.82	6.07[3]	11.81	6.40	.86	.53	7.62[3]
	Exp Pre	10.47	2.20	.59	**	3.03[2]	5.54	3.51	.64	.68	0.51	12.41	5.55	.68	.49	0.84
PA	N=304 Post	11.51	4.92	.50	.54		6.50	2.17	.27	.62		15.01	5.70	.43	.47	
	Cont Pre	10.02	1.50	.95	**		5.45	2.99	.48	.63		12.20	6.21	.54	.53	
	N=130 Post	9.27	3.20	.93	.13	10.26[3]	5.85	2.62	.62	.71	4.07[3]	12.52	13.82	.44	.78	8.34[3]
	Exp Pre	9.96	5.27	.66	.42	1.02	5.68	3.55	.54	.68	-0.96	12.68	8.29	.58	.59	-0.69
VA	N=504 Post	10.92	7.06	.56	.61		5.99	3.67	.49	.76		14.17	10.43	.27	.68	
	Cont Pre	9.71	6.56	.35	.56		5.86	0.84	.70	.10		12.87	4.32	.31	.23	
	N=110 Post	9.73	4.44	.55	.35	4.41[3]	6.17	4.02	.42	.84	-0.86	12.66	9.66	.68	.68	4.49[3]
	Exp Pre	9.80	1.99	.57	.20	0.99	5.42	3.23	.60	.62	1.86	12.21	7.66	.35	.56	2.91[2]
Total	N=3083 Post	11.09	5.91	.62	.53		6.60	3.08	.48	.69		14.57	9.79	.10	.67	
	Cont Pre	9.73	3.09	.57	**		5.29	3.10	.64	.61		11.91	5.97	.65	.44	
	N= 895 Post	9.39	4.35	.63	.30	19.01[3]	5.43	3.75	.49	.68	17.31[3]	12.31	9.21	.58	.64	19.15[3]

1 $p < .05$

2 $p < .01$

3 $p < .001$

*For each site the first t value is associated with a statistical test of the difference between mean scores on pretest measures for experimental and control groups; the second t value is associated with a comparable test on posttest measures.

**Unavailable

TABLE X (Continued)

State	Administration	GENERAL OBJECTIVE 4 Mean	Variance	Standard Error	Estimated Reliability	t*	GENERAL OBJECTIVE 5 Mean	Variance	Standard Error	Estimated Reliability	t*	GENERAL OBJECTIVE 6 Mean	Variance	Standard Error	Estimated Reliability	t*
CA Exp N=444	Pre	3.75	3.12	.31	.52	0.59	7.97	3.57	.09	.35	-2.20[1]	28.89	15.16	1.31	.52	7.40[3]
	Post	4.48	4.26	.46	.70		8.86	4.52	.27	.58		29.89	11.94	1.00	.45	
Cont N=201	Pre	3.67	2.87	.47	.48		8.34	4.77	.19	.59		26.53	11.76	0.87	.26	
	Post	4.00	3.76	.33	.66	2.83[2]	8.26	5.26	.20	.61	3.26[2]	27.90	16.19	0.77	.53	6.48[3]
FL Exp N=289	Pre	3.67	2.16	.39	.26	-0.61	7.89	7.19	.37	.72	1.51	32.20	11.25	2.08	.31	4.87[3]
	Post	4.12	2.72	.46	.47		8.43	6.22	.27	.70		27.26	13.40	0.93	.51	
Cont N= 45	Pre	3.82	3.90	.10	.77		7.26	3.09	.54	.64		29.40	23.86	0.79	.83	
	Post	3.72	3.69	.32	.78	1.51	7.81	4.10	.31	.65	1.59	24.39	17.49	1.05	.76	4.80[3]
MO Exp N=300	Pre	4.22	3.57	.42	.65	-0.98	8.85	3.97	.43	.51	0.97	27.82	12.67	0.37	.42	-11.90[3]
	Post	4.63	3.98	.61	.70		9.18	4.36	.29	.61		30.22	18.47	0.85	.69	
Cont N= 96	Pre	4.50	0.84	.45	.18		8.71	7.42	.43	.79		33.06	18.63	1.66	.71	
	Post	4.37	2.61	.39	.56	1.16	8.42	3.89	.36	.49	3.14[2]	24.65	11.61	1.22	.57	11.58[3]
NY Exp N=682	Pre	4.18	2.76	.35	.46	3.54[3]	8.81	5.08	.16	.63	4.05[3]	31.71	10.40	2.15	.27	6.59[3]
	Post	4.85	3.10	.63	.58		9.20	4.59	.21	.63		28.57	10.82	0.79	.37	
Cont N=153	Pre	3.67	1.90	.61	.32		8.00	5.20	.37	.62		29.61	23.19	1.53	.76	
	Post	4.07	4.83	.38	.75	4.77[3]	8.57	4.91	.32	.61	3.29[3]	27.01	15.71	1.02	.55	5.10[3]
OK Exp N=281	Pre	4.32	1.38	.52	**	3.22[2]	8.37	7.12	.31	.76	0.72	29.36	8.81	1.09	**	12.59[3]
	Post	5.28	3.51	.52	.65		9.16	1.42	.32	**		30.72	15.06	0.77	.60	
Cont N= 67	Pre	3.71	3.89	.26	.75		8.11	7.75	.31	.77		23.70	19.91	1.90	.69	
	Post	3.52	4.97	.34	.82	6.70[3]	8.19	1.60	.64	**	5.93[3]	28.51	21.59	1.36	.75	4.03[3]
PA Exp N=304	Pre	3.97	3.61	.36	.64	-2.10[1]	9.13	4.36	.18	.63	0.83	28.13	9.37	0.69	.16	6.78[3]
	Post	4.69	3.27	.50	.60		9.67	4.14	.29	.67		32.67	18.63	1.48	.62	
Cont N=130	Pre	4.36	1.92	.44	.34		8.96	3.46	.14	.54		26.06	6.40	1.07	.43	
	Post	4.34	3.41	.39	.70	1.84	8.70	4.69	.25	.62	4.47[3]	25.75	26.46	0.94	.82	14.46[3]
VA Exp N=504	Pre	4.41	2.71	.44	.46	0.54	8.91	4.97	.27	.61	-1.88	32.40	9.20	1.87	.25	2.43[1]
	Post	5.00	2.75	.49	.48		9.21	3.85	.24	.54		28.73	15.23	0.69	.55	
Cont N=110	Pre	4.32	2.59	.45	.64		9.34	3.64	.20	.55		31.48	31.13	2.05	.80	
	Post	4.70	3.67	.41	.68	1.64	9.64	7.42	.17	.84	-1.91	33.01	18.02	1.92	.63	-10.23[3]
Total Exp N=3083	Pre	4.12	2.80	.33	.43	2.08[1]	8.62	5.07	.13	.60	0.65	31.72	11.31	2.11	.28	16.88[3]
	Post	4.71	3.44	.50	.59		9.13	4.34	.24	.59		28.35	13.89	0.74	.49	
Cont N= 895	Pre	3.99	2.67	.37	.42		8.56	5.04	.10	.60		29.46	17.46	1.14	.53	
	Post	4.18	4.26	.34	.67	7.42[3]	8.56	4.87	.10	.57	7.40[3]	27.38	18.16	0.47	.59	6.59[3]

1 p .05
2 p .01
3 p .001

*For each site the first t value is associated with a statistical test of the difference between mean scores on pretest measures for experimental and control groups; the second t value is associated with a comparable test on posttest measures.

**Unavailable

TABLE X (Continued)

State	Administration	GENERAL OBJECTIVE 7 Mean	Variance	Standard Error	Estimated Reliability	t*	GENERAL OBJECTIVE 8 Mean	Variance	Standard Error	Estimated Reliability	t*	GENERAL OBJECTIVE 9 Mean	Variance	Standard Error	Estimated Reliability	t*
	Exp Pre	77.35	87.78	1.38	.81	-0.36	29.26	18.66	1.60	.52	1.40	28.17	18.33	0.82	.63	1.49
CA	N=444 Post	75.44	71.36	0.91	.77		27.82	24.22	0.63	.70		29.48	21.77	1.03	.80	
	Cont Pre	77.63	66.04	1.86	.74		28.76	15.58	1.20	.44		27.61	22.04	1.01	.68	
	N=201 Post	79.61	107.54	1.81	.82	-5.39[3]	27.91	32.39	1.41	.83	-0.21	28.68	14.46	0.92	.68	2.11[1]
	Exp Pre	78.87	102.78	1.62	.81	2.10[1]	27.78	21.90	1.31	.60	3.19[2]	29.54	21.13	0.58	.68	2.58[2]
FL	N=289 Post	72.29	69.91	1.14	.76		27.31	28.43	1.21	.73		29.17	20.86	0.58	.70	
	Cont Pre	75.53	70.64	2.15	.77		27.04	11.89	0.63	.63		27.73	6.86	0.46	.60	
	N= 45 Post	70.99	79.25	3.88	.76	0.96	28.09	28.34	1.30	.84	-0.91	28.58	20.30	1.26	.88	0.80
	Exp Pre	77.81	72.58	1.87	.76	5.81[3]	30.50	24.33	1.56	.64	3.81[3]	31.18	17.15	1.97	.70	0.43
MO	N=300 Post	77.63	82.73	0.91	.78		26.47	23.97	3.34	.73		30.22	14.70	1.09	.61	
	Cont Pre	72.00	74.36	1.55	.81		28.29	25.47	1.37	.72		30.97	17.15	1.59	.74	
	N= 96 Post	75.25	67.66	2.22	.78	2.28[1]	28.85	11.12	1.73	.56	-4.46[3]	28.33	17.39	0.83	.63	4.13[3]
	Exp Pre	75.18	69.87	1.55	.76	-2.24[1]	26.31	25.70	3.04	.67	1.07	29.01	18.31	1.19	.69	-6.58[3]
NY	N=682 Post	82.20	53.81	1.40	.71		29.66	25.86	0.58	.71		29.72	18.88	1.23	.71	
	Cont Pre	76.81	49.53	1.41	.65		25.83	23.19	2.35	.64		31.46	12.49	2.31	.58	
	N=153 Post	80.93	68.49	2.25	.75	1.90	28.39	26.75	0.75	.80	2.79[2]	31.56	20.04	1.25	.76	-4.71[3]
	Exp Pre	80.24	71.37	1.34	.74	1.39	31.05	24.83	1.29	.69	2.42[1]	28.85	19.03	1.19	.72	0.47
OK	N=281 Post	77.09	81.12	1.26	.80		28.73	28.67	1.13	.75		30.47	24.27	0.59	.81	
	Cont Pre	78.62	82.07	2.05	.78		29.33	38.64	0.60	.89		28.59	8.27	0.65	.38	
	N= 67 Post	72.42	128.38	1.26	.85	3.62[3]	27.63	14.89	1.02	.70	1.59	28.35	19.53	0.87	.70	3.24[2]
	Exp Pre	80.98	56.21	1.69	.71	-3.47[3]	30.19	21.50	0.66	.58	-1.88	28.85	17.25	1.84	.64	-7.16[3]
PA	N=304 Post	83.74	85.67	1.15	.83		28.55	20.38	2.36	.61		32.52	14.41	1.39	.72	
	Cont Pre	83.63	59.81	1.22	.72		31.11	21.67	0.84	.70		32.00	18.13	2.27	.78	
	N=130 Post	76.80	62.10	2.07	.78	7.47[3]	28.75	20.75	1.34	.66	-0.42	30.45	23.42	0.90	.86	4.76[3]
	Exp Pre	80.54	73.77	1.54	.76	6.08[3]	25.45	23.99	2.77	.65	-2.40[1]	27.30	24.75	1.66	.76	-3.16[2]
VA	N=504 Post	76.55	86.31	0.38	.81		27.77	19.17	1.07	.62		29.58	18.21	0.86	.68	
	Cont Pre	75.09	67.41	2.24	.73		26.66	17.52	0.89	.54		28.86	9.31	0.86	.43	
	N=110 Post	69.78	114.53	1.48	.84	6.72[3]	28.05	31.45	0.80	.84	-0.58	29.22	20.93	0.92	.81	0.78
	Exp Pre	75.09	74.17	1.60	.76	-8.74[3]	25.00	23.47	3.95	.60	-21.41[3]	27.80	19.51	1.63	.67	-5.18[3]
Total	N=3083 Post	81.40	75.70	1.34	.78		29.23	24.25	0.66	.67		28.28	18.89	1.83	.70	
	Cont Pre	77.93	69.21	1.36	.75		28.87	21.11	0.93	.54		28.65	16.56	0.80	.59	
	N= 895 Post	80.28	87.40	2.25	.79	3.33[3]	28.80	25.51	0.69	.71	2.26[1]	30.57	17.61	1.57	.64	-13.98[3]

[1] $p \leq .05$
[2] $p \leq .01$
[3] $p \leq .001$

*For each site the first t value is associated with a statistical test of the difference between mean scores on pretest measures for experimental and control groups; the second t value is associated with a comparable test on posttest measures.

TABLE X (Continued)

GENERAL OBJECTIVE 10

State		Administration	Mean	Variance	Standard Error	Estimated Reliability	t*
	Exp	Pre	62.59	53.45	2.10	.73	1.23
CA	N=444	Post	63.39	52.52	2.00	.76	
	Cont	Pre	61.79	74.12	1.86	.79	
	N=201	Post	62.30	77.41	2.38	.80	1.65
	Exp	Pre	61.84	68.03	2.66	.78	-1.38
FL	N=289	Post	62.50	50.61	3.14	.75	
	Cont	Pre	63.64	51.08	2.72	.81	
	N= 45	Post	61.00	99.44	1.21	.85	1.24
	Exp	Pre	62.44	62.66	2.38	.81	2.68[2]
MO	N=300	Post	61.69	62.93	2.05	.80	
	Cont	Pre	60.10	33.45	3.51	.58	
	N= 96	Post	61.97	59.61	2.38	.81	-0.30
	Exp	Pre	63.98	44.78	2.73	.67	-1.41
NY	N=682	Post	60.22	47.87	2.56	.75	
	Cont	Pre	64.82	41.96	1.59	.72	
	N=153	Post	63.55	54.35	3.04	.75	-5.31[3]
	Exp	Pre	65.62	81.84	2.82	.85	3.66[3]
OK	N=281	Post	65.37	54.89	2.76	.79	
	Cont	Pre	61.12	82.72	3.65	.83	
	N= 67	Post	62.07	30.17	2.87	.75	3.43[3]
	Exp	Pre	63.40	45.37	2.14	.67	-1.87
PA	N=304	Post	64.82	50.98	2.87	.74	
	Cont	Pre	64.62	23.30	2.57	.27	
	N=130	Post	61.77	57.11	2.53	.75	4.00[3]
	Exp	Pre	63.02	56.93	2.46	.74	-0.52
VA	N=504	Post	62.53	64.04	2.79	.79	
	Cont	Pre	63.43	40.10	2.71	.63	
	N=110	Post	61.85	72.17	2.30	.83	0.79
	Exp	Pre	63.78	55.38	2.66	.73	2.34[1]
Total	N=3083	Post	59.94	53.50	2.80	.76	
	Cont	Pre	63.13	45.59	2.11	.66	
	N= 895	Post	62.86	60.89	2.84	.75	-10.31[3]

1 p .05 *For each site the first t value is associated with a statistical test
2 p .01 of the difference between mean scores on pretest measures for experimental
3 p .001 and control groups; the second t value is associated with a comparable test on posttest measures.

TABLE XI
RESULTS: SPECIFIC KNOWLEDGE OBJECTIVES 1-16

State	Administration	1 Mean	1 Standard Error	2 Mean	2 Standard Error	3 Mean	3 Standard Error	4 Mean	4 Standard Error	5 Mean	5 Standard Error	6 Mean	6 Standard Error	7 Mean	7 Standard Error	8 Mean	8 Standard Error
	Exp	Pre	2.96	.41	2.47	.28	2.58	.35	1.40	.26	2.90	.35	2.20	.23	3.12	.12	1.61	.64
CA	N=644	Post	2.82	.49	2.61	.35	2.91	.32	2.62	.34	3.00	.25	2.83	.20	3.36	.08	2.10	.18
	Cont	Pre	3.01	.38	2.31	.31	2.59	.28	1.69	.20	2.86	.41	2.49	.22	3.11	.10	1.59	.71
	N=201	Post	2.79	.46	2.41	.45	2.78	.37	1.53	.26	3.04	.30	2.07	.22	3.26	.18	1.68	.64
	Exp	Pre	2.78	.50	2.32	.30	2.51	.37	1.41	.30	2.63	.53	2.11	.37	3.02	.24	1.47	.55
FL	N=289	Post	2.59	.62	2.39	.34	2.65	.31	2.06	.30	2.74	.32	2.45	.26	3.16	.21	1.83	.13
	Cont	Pre	2.65	.40	3.04	.28	2.82	.43	1.61	.45	2.77	.45	1.96	.45	3.20	.27	1.44	.53
	N= 45	Post	2.51	.61	2.12	.54	2.93	.30	1.79	.36	2.83	.37	2.47	.32	3.28	.27	2.07	.59
	Exp	Pre	3.05	.39	2.73	.30	2.86	.41	1.66	.24	3.08	.30	2.45	.21	3.31	.15	1.83	.60
MO	N=300	Post	2.97	.41	2.62	.31	3.00	.29	2.61	.19	3.29	.29	2.81	.32	3.45	.16	1.87	.12
	Cont	Pre	3.13	.40	2.45	.27	3.01	.38	1.63	.11	2.71	.41	2.50	.25	3.08	.18	1.36	.49
	N= 96	Post	3.00	.33	2.58	.33	2.38	.22	1.58	.30	2.96	.36	2.38	.23	3.38	.08	1.71	.72
	Exp	Pre	2.90	.47	2.51	.39	2.82	.38	1.59	.13	2.98	.45	2.63	.29	3.25	.19	1.85	.52
NY	N=682	Post	3.00	.39	2.53	.41	3.03	.36	2.88	.26	3.06	.36	3.17	.16	3.57	.09	2.51	.18
	Cont	Pre	2.70	.38	2.53	.27	2.77	.28	1.33	.16	2.81	.41	2.30	.18	3.11	.20	1.86	.59
	N=153	Post	2.72	.50	2.29	.27	2.66	.40	1.67	.16	2.69	.48	2.54	.23	3.14	.13	1.83	.53
	Exp	Pre	2.81	.47	2.90	.14	2.75	.27	1.64	.16	2.93	.45	2.34	.35	3.23	.18	1.51	.58
OK	N=281	Post	2.91	.45	2.97	.29	2.92	.40	2.88	.26	3.14	.31	3.02	.24	3.58	.13	2.00	.11
	Cont	Pre	3.01	.52	2.62	.43	2.52	.48	1.63	.30	2.47	.55	2.19	.29	3.04	.13	1.60	.71
	N= 67	Post	2.54	.49	2.34	.43	2.72	.33	1.42	.31	2.81	.47	2.03	.11	3.22	.29	1.85	.87
	Exp	Pre	3.03	.42	2.87	.39	3.04	.28	1.53	.79	2.98	.42	2.56	.28	3.41	.23	1.73	.74
PA	N=304	Post	3.04	.39	2.58	.46	3.26	.35	2.63	.21	3.37	.26	3.13	.04	3.64	.09	1.95	.09
	Cont	Pre	2.73	.47	2.83	.44	2.86	.58	1.60	.30	2.99	.24	2.46	.26	3.23	.22	1.89	.54
	N=130	Post	2.74	.63	2.21	.39	2.66	.44	1.66	.16	3.30	.15	2.56	.16	3.23	.16	2.00	.51
	Exp	Pre	2.76	.54	2.51	.37	2.83	.28	1.86	.20	3.14	.27	2.54	.30	3.34	.18	1.87	.45
VA	N=504	Post	2.76	.53	2.70	.20	2.86	.34	2.60	.17	3.15	.27	2.84	.26	3.35	.17	2.39	.29
	Cont	Pre	2.34	.47	2.24	.41	3.02	.87	1.71	.09	3.17	.43	2.69	.34	2.86	.34	2.08	.61
	N=110	Post	2.71	.53	2.33	.38	2.56	.38	2.13	.25	3.25	.29	2.92	.24	3.31	.07	1.75	.69
	Exp	Pre	2.89	.44	2.56	.32	2.76	.31	1.60	.15	2.97	.39	2.43	.26	3.25	.16	1.72	.58
Total	N=3083	Post	2.87	.46	2.61	.33	2.96	.34	2.65	.25	3.09	.30	2.94	.19	3.46	.11	2.16	.07
	Cont	Pre	2.87	.41	2.53	.33	2.76	.33	1.56	.13	2.87	.41	2.42	.26	3.10	.17	1.71	.58
	N= 895	Post	2.76	.49	2.34	.34	2.69	.34	1.62	.18	3.00	.34	2.42	.21	3.26	.14	1.81	.62

TABLE XI (continued)

State	Administration	9 Mean	9 Standard Error	10 Mean	10 Standard Error	11 Mean	11 Standard Error	12 Mean	12 Standard Error	13 Mean	13 Standard Error	14 Mean	14 Standard Error	15 Mean	15 Standard Error	16 Mean	16 Standard Error
CA	Exp, Pre	2.20	.50	2.92	.32	1.51	.55	2.35	.29	1.41	.23	2.10	.07	2.66	.16	3.21	.23
	N=444 Post	2.95	.24	2.77	.46	2.95	.21	2.61	.30	1.88	.27	2.41	.19	3.12	.12	3.34	.14
	Cont Pre	2.33	.46	2.83	.32	1.57	.60	2.15	.33	1.52	.29	2.19	.16	2.83	.25	3.32	.24
	N=201 Post	2.50	.26	2.75	.41	1.70	.54	2.43	.24	1.57	.17	2.47	.11	2.57	.06	3.22	.14
FL	Exp Pre	2.53	.40	2.77	.29	1.66	.35	2.24	.22	1.42	.30	2.11	.13	2.67	.23	3.11	.19
	N=289 Post	2.97	.31	2.57	.36	2.45	.28	2.38	.30	1.74	.27	2.22	.24	3.01	.14	3.20	.18
	Cont Pre	2.36	.75	3.00	.49	1.55	.77	2.48	.34	1.35	.31	1.86	.38	2.48	.27	2.92	.37
	N= 45 Post	2.75	.27	2.68	.46	1.50	.52	2.39	.37	1.33	.23	2.13	.37	2.30	.22	3.38	.16
MO	Exp Pre	2.69	.39	3.09	.31	2.26	.40	2.73	.31	1.60	.27	2.56	.18	3.00	.06	3.29	.21
	N=300 Post	3.00	.23	3.06	.36	3.13	.18	2.63	.38	2.00	.37	2.70	.31	3.03	.17	3.45	.17
	Cont Pre	2.75	.23	3.05	.42	1.44	.58	2.51	.50	2.00	.47	2.55	.26	2.83	.16	3.33	.09
	N= 96 Post	2.91	.35	3.16	.42	1.55	.70	2.70	.29	1.67	.35	2.25	.21	2.67	.07	3.50	.16
NY	Exp Pre	2.65	.46	3.02	.28	1.53	.58	2.56	.34	1.62	.33	2.67	.04	2.69	.10	3.46	.17
	N=682 Post	3.19	.22	3.12	.34	3.07	.18	2.83	.45	2.02	.28	2.59	.25	3.09	.11	3.51	.09
	Cont Pre	2.60	.46	3.17	.29	1.43	.66	2.40	.33	1.27	.37	2.19	.15	2.67	.15	3.14	.27
	N=153 Post	2.63	.48	3.12	.32	1.55	.63	2.47	.41	1.59	.10	2.51	.10	2.66	.29	3.40	.10
OK	Exp Pre	2.51	.48	3.01	.25	1.59	.63	2.65	.37	1.67	.30	2.38	.27	2.72	.12	3.28	.14
	N=281 Post	3.29	.18	2.81	.45	3.09	.23	3.04	.26	2.24	.37	2.37	.39	3.28	.19	3.51	.16
	Cont Pre	2.31	.51	2.91	.36	1.78	.64	2.13	.45	1.59	.51	2.28	.17	2.55	.33	3.29	.18
	N= 67 Post	2.38	.29	2.49	.39	1.88	.61	2.19	.42	1.33	.22	2.40	.42	2.69	.31	3.10	.22
PA	Exp Pre	2.55	.50	3.06	.41	1.66	.65	2.45	.50	1.52	.31	2.74	.10	2.83	.19	3.57	.13
	N=304 Post	3.14	.18	3.16	.36	3.12	.16	2.73	.45	1.96	.27	2.59	.29	3.46	.10	3.62	.09
	Cont Pre	2.55	.44	2.83	.32	1.71	.66	2.64	.47	1.72	.31	2.77	.05	2.59	.20	3.60	.10
	N=130 Post	2.65	.32	2.99	.20	1.65	.56	2.72	.40	1.63	.30	2.40	.08	2.86	.14	3.44	.18
VA	Exp Pre	2.91	.22	2.73	.36	1.83	.58	2.72	.26	1.68	.28	2.67	.16	2.88	.09	3.36	.19
	N=504 Post	3.18	.16	2.83	.34	2.44	.32	2.88	.29	2.11	.26	2.65	.26	3.08	.11	3.49	.08
	Cont Pre	3.02	.32	3.00	.38	1.92	.41	2.52	.40	1.80	.36	2.84	.08	2.94	.11	3.56	.11
	N=110 Post	2.82	.33	2.87	.36	1.91	.44	3.06	.27	1.64	.15	2.91	.08	3.13	.17	3.60	.11
Total	Exp Pre	2.61	.39	2.96	.30	1.68	.54	2.53	.29	1.58	.28	2.52	.08	2.75	.09	3.35	.16
	N=3083 Post	3.13	.17	2.92	.36	2.90	.21	2.74	.35	1.97	.27	2.54	.25	3.13	.12	3.46	.10
	Cont Pre	2.55	.41	2.95	.32	1.60	.61	2.39	.34	1.59	.32	2.43	.07	2.76	.13	3.37	.17
	N= 895 Post	2.67	.30	2.89	.34	1.68	.56	2.55	.31	1.63	.15	2.47	.09	2.70	.13	3.39	.07

TABLE XII
RESULTS: SPECIFIC ATTITUDE OBJECTIVES 17-25

State	Administration		17 Mean	17 Standard Error	18 Mean	18 Standard Error	19 Mean	19 Standard Error	20 Mean	20 Standard Error	21 Mean	21 Standard Error	22 Mean	22 Standard Error	23 Mean	23 Standard Error	24 Mean	24 Standard Error	25 Mean	25 Standard Error
	Exp	Pre	14.60	.98	14.28	.41	15.92	.24	15.63	.69	16.89	.99	15.09	1.76	15.83	.56	14.64	.76	10.72	2.22
CA	N=444	Post	15.00	.84	14.89	.28	15.92	.97	15.76	.68	17.11	1.05	14.88	.41	16.14	.47	14.58	.46	15.13	1.57
	Cont	Pre	12.16	.69	14.37	.32	15.88	.31	15.65	.92	16.58	1.16	13.35	.53	16.12	.73	14.64	.78	15.09	1.66
	N=201	Post	12.70	.59	15.20	.27	16.26	1.18	16.00	.75	14.50	.88	13.23	.46	15.50	.45	14.36	.88	12.56	1.54
	Exp	Pre	17.16	1.88	15.04	.39	16.60	1.22	15.35	.87	16.31	.92	10.46	2.70	15.26	.56	13.84	1.29	12.90	.62
FL	N=289	Post	12.75	.59	14.51	.88	14.51	.90	14.97	.50	16.50	1.44	14.64	.59	15.15	.68	13.94	.96	14.08	1.43
	Cont	Pre	15.53	.44	13.87	.65	15.37	.29	16.05	.78	11.40	3.02	15.50	1.70	14.54	.75	13.85	.82	14.90	1.59
	N= 45	Post	10.73	1.46	13.66	.71	13.22	1.08	14.82	1.27	15.01	1.20	13.84	.88	15.07	.88	13.67	1.13	15.64	1.90
	Exp	Pre	12.72	.57	15.11	.38	15.46	.32	16.09	.85	16.09	.30	11.49	2.46	15.80	.67	14.94	.58	15.56	1.44
MO	N=300	Post	14.90	.66	15.32	.26	15.49	.30	15.93	.28	15.58	.41	13.77	.73	15.81	.59	14.82	.95	14.80	.52
	Cont	Pre	17.73	1.38	15.33	.82	13.52	2.00	16.85	.85	13.33	2.80	13.89	.97	15.63	.67	14.51	1.07	13.78	.83
	N= 96	Post	10.27	1.36	14.38	.19	14.73	1.09	16.19	1.04	15.96	.22	14.72	.76	15.70	.54	14.66	.90	12.41	1.61
	Exp	Pre	16.77	1.91	14.95	.38	14.55	.87	16.22	.74	15.20	1.01	13.40	.63	15.82	.72	14.88	.78	15.70	1.38
NY	N=682	Post	13.31	.90	15.26	.55	16.82	1.14	16.03	.58	15.96	.12	13.14	1.69	16.29	.65	15.01	.77	15.59	1.38
	Cont	Pre	14.82	1.14	14.79	.47	16.01	.43	16.06	.98	14.39	.74	12.14	1.27	15.51	.62	14.29	.93	12.67	.98
	N=153	Post	12.64	1.76	14.37	.37	16.90	1.18	16.04	.55	15.87	.21	14.50	.62	15.66	.57	14.30	.77	14.10	.65
	Exp	Pre	14.67	.86	14.69	.27	15.98	.21	16.65	.55	16.68	.37	14.62	.51	16.31	.62	15.07	.64	11.61	2.80
OK	N=281	Post	15.31	.47	15.41	.36	15.11	1.16	16.60	.15	12.93	3.00	14.90	.54	16.54	.28	14.72	.59	15.89	1.34
	Cont	Pre	10.26	1.56	13.44	.89	16.36	.36	16.67	.76	17.31	.92	12.66	.95	15.36	1.10	15.45	.75	14.74	1.61
	N= 67	Post	14.69	.84	13.82	.68	13.84	.75	16.30	.18	17.20	1.26	11.56	1.05	15.20	1.43	14.48	.42	12.14	1.96
	Exp	Pre	12.79	.49	15.34	.35	16.29	.30	17.03	.50	18.09	.71	13.59	.68	16.00	.81	15.04	.80	14.18	.78
PA	N=304	Post	17.41	1.47	15.27	.21	17.34	.88	16.44	.62	17.64	.83	15.10	.29	16.28	.52	15.54	.77	15.11	.52
	Cont	Pre	10.68	1.52	15.37	.45	17.54	.85	17.13	.60	17.31	.97	15.59	1.42	16.05	.57	16.08	.58	13.96	.81
	N=130	Post	10.17	1.28	15.57	.61	14.66	1.04	16.76	.74	16.71	.51	15.54	1.59	15.98	.69	14.89	.86	14.92	.46
	Exp	Pre	16.92	1.85	15.48	.28	16.30	1.32	16.02	.70	15.77	.25	15.53	1.43	15.85	.64	14.20	.92	12.19	1.39
VA	N=504	Post	13.33	.84	15.41	.29	15.18	.52	15.88	.51	12.24	2.61	13.71	.64	15.65	.45	14.53	.85	11.12	2.55
	Cont	Pre	16.52	2.00	14.96	.47	14.84	.94	16.63	.74	15.16	1.03	12.94	.54	15.53	.41	13.66	.86	11.77	1.56
	N=110	Post	17.91	1.34	15.09	.68	12.87	2.03	15.74	.55	12.19	2.42	13.22	.47	15.86	.39	13.83	1.02	13.30	.52
	Exp	Pre	16.79	1.93	14.93	.30	14.64	.91	16.12	.70	15.17	1.03	13.32	.54	15.85	.61	14.62	.83	12.38	1.52
Total	N=3083	Post	13.12	.81	15.15	.38	16.73	1.12	15.95	.51	15.75	.12	12.89	1.67	16.01	.52	14.73	.74	15.46	1.47
	Cont	Pre	14.69	.95	14.76	.28	15.99	.33	16.30	.76	14.82	.92	12.22	1.42	15.65	.57	14.67	.77	14.21	.74
	N= 895	Post	12.71	.51	14.67	.34	16.52	1.22	16.04	.59	15.78	.09	14.28	.67	15.68	.55	14.39	.75	12.44	1.47

TABLE XIII
RESULTS: SPECIFIC BEHAVIOR OBJECTIVES 26-31

State	Administration		26 Mean	26 Standard Error	27 Mean	27 Standard Error	28 Mean	28 Standard Error	29 Mean	29 Standard Error	30 Mean	30 Standard Error	31 Mean	31 Standard Error
CA	Exp N=444	Pre	14.74	.67	13.43	.68	17.06	8.27	16.59	.33	14.39	.66	14.56	1.87
		Post	14.98	.77	13.56	.74	16.93	.17	16.48	.27	15.07	.66	14.91	1.74
	Cont N=201	Pre	14.27	1.12	14.30	.56	16.60	.33	16.70	.51	14.04	.73	14.45	1.78
		Post	14.40	.59	13.29	.74	16.38	.13	17.18	.92	13.77	.72	14.97	1.58
FL	Exp N=289	Pre	16.18	.17	13.21	.55	17.03	.10	16.62	.47	13.80	.38	13.98	2.49
		Post	15.30	.54	13.86	.51	16.00	.42	17.19	.99	14.60	.67	14.73	1.71
	Cont N= 45	Pre	14.66	.28	13.07	.50	17.07	.37	16.33	.59	14.96	1.27	15.29	1.44
		Post	14.83	.98	13.75	.78	16.61	.60	16.25	.77	14.60	.63	13.54	1.81
MO	Exp N=300	Pre	15.63	.83	15.55	1.41	16.40	.41	16.96	.48	14.58	.97	14.50	2.01
		Post	15.56	.75	11.51	2.67	16.42	.50	15.58	1.21	15.00	.64	14.70	1.81
	Cont N= 96	Pre	15.26	.42	12.55	1.83	16.79	.57	13.54	3.21	15.00	.74	14.78	2.31
		Post	15.03	.77	12.41	1.32	16.54	.66	15.88	.78	14.94	.77	14.61	2.07
NY	Exp N=682	Pre	15.34	.96	11.54	2.74	16.71	.12	17.57	.90	15.10	.83	14.60	2.14
		Post	15.65	.69	14.07	.81	16.75	.43	13.34	3.34	15.27	.70	14.87	1.94
	Cont N=153	Pre	15.37	1.25	13.82	.81	17.01	.17	16.98	.37	15.29	.66	15.53	1.43
		Post	15.53	.57	12.35	2.60	16.01	.22	17.94	.83	15.14	.91	14.47	1.79
OK	Exp N=281	Pre	15.32	1.00	13.53	.91	16.92	.25	18.13	.72	15.47	.74	15.10	2.10
		Post	15.30	.56	14.24	.79	17.10	.31	17.52	.92	15.41	.60	15.34	1.86
	Cont N= 67	Pre	15.30	.61	14.15	.89	16.24	.85	15.68	2.27	14.44	1.06	14.76	2.56
		Post	13.99	.69	13.35	.82	16.77	.32	16.91	.27	12.94	1.40	15.46	1.77
PA	Exp N=304	Pre	15.53	1.03	15.25	.76	16.87	.26	16.82	.54	15.23	.72	14.48	2.10
		Post	15.99	.63	15.47	.45	16.67	.24	18.03	.70	15.91	.67	14.21	2.20
	Cont N=130	Pre	16.15	.72	12.20	1.67	16.57	.51	17.36	1.11	15.77	.58	14.92	2.50
		Post	15.27	.74	16.24	1.36	16.04	.50	16.88	.42	14.72	.65	14.12	2.11
VA	Exp N=504	Pre	14.72	.84	14.46	.69	16.36	.28	17.41	1.02	14.49	.56	14.76	1.82
		Post	14.85	.86	15.80	1.53	16.24	.31	17.37	.89	14.73	.71	14.19	1.83
	Cont N=110	Pre	15.43	.79	12.20	1.76	16.66	.25	17.20	.93	14.60	.43	14.96	1.74
		Post	14.49	.66	13.81	.72	16.17	.55	16.64	.26	14.35	.72	14.69	1.81
Total	Exp N=3083	Pre	15.19	.83	12.61	1.62	16.65	6.12	17.65	.87	14.82	.75	14.66	1.97
		Post	15.34	.67	14.85	.54	16.56	.31	13.51	3.20	15.13	.63	14.65	1.86
	Cont N= 895	Pre	15.12	.79	14.56	.62	16.62	.12	16.68	.35	14.90	.65	14.93	1.88
		Post	14.92	.57	13.67	.62	16.20	.28	17.52	.90	14.47	.77	14.66	1.80

TABLE XIV

RESULTS OF PRETEST, POSTTEST, AND DELAYED EIGHT WEEK POSTTEST ADMINISTRATIONS FOR OVERALL MEASURES OF KNOWLEDGE, ATTITUDE, AND BEHAVIOR: MEANS, VARIANCES, STANDARD ERRORS, AND ESTIMATED RELIABILITIES (N=480)

Measure	Administration	$\bar{X}$	Variance	SE	Estimated Reliability
Knowledge	Pre	40.68	50.81	0.31	.77
	Post 1	47.58	82.80	0.47	.88
	Post 2	46.79	78.98	0.48	.87
Attitude	Pre	122.31	203.16	2.98	.83
	Post 1	124.10	208.22	1.30	.85
	Post 2	122.98	211.68	1.25	.86
Behavior	Pre	97.37	65.68	3.48	.71
	Post 1	97.40	75.63	3.42	.80
	Post 2	93.45	74.95	3.14	.77

TABLE XV

RESPONSES TO ITEM 36 ON TEST FORM A "WHAT WOULD YOU DO IF YOU WANTED TO GO HOME AND WERE OFFERED A RIDE BY SOMEONE WHO APPEARED TO BE DRUNK?"

Response Category[1]	Experimental Gp. Pretest (N=108)	Experimental Gp. Posttest (N=117)	Control Gp. Pretest (N=46)	Control Gp. Posttest (N=48)
1.0 Refusal	23	33	10	12
1.1 due to fear of crash or police involvement	12	8	5	6
1.2 and fabricated excuse	20	18	7	10
1.3 and alternative	28	22	10	10
1.4 and advise/admonish driver	6	8	5	2
1.5 and take license number and call police	1	0	0	0
1.6 and offer driver other means of transport	6	14	3	5
1.7 and call driver's parents	1	0	0	0
1.8 and take away liquor	0	1	0	0
2.0 Uncertain as to whether or not he/she would accept ride	1	4	0	0
3.0 Accept ride				
3.1 Unconditionally	0	2	0	0
3.2 Conditionally	3	4	3	2
4.0 Misinterpretation of question	7	3	3	1
Total refusals (1.0 through 1.8)	97	104	40	45
Total accepts (3.1 and 3.2)	3	6	3	2

[1] Examples of Content in Above Response Categories

1.0 "I would say no, thank you." "I would not accept the ride.", etc.

1.1 "I would say no because they could have a wreck and get everyone killed."

1.2 "My mother just called and said she was going to pick me up."

1.3 "I would rather walk, hitch, take a taxi, call family, find ride with sober friend," etc.

1.4 "I would probably tell them not to drive because of drunkenness."

1.5 "I wouldn't go with them. Then I'd probably get the license plate number and call the police."

1.6 "I would try to get another ride both for me and the drunk person so we could get home safely, and if I could I would offer to drive us both home or take a cab."

1.7 "I would tell that person not to go. I would tell him to call one or both of his parents to come pick him up."

1.8 "Ask him if he had any more and if he did, take it and say 'See you sucker' and walk away."

2.0 "I might or might not if I thought he was drunk."

3.1 "I would say OK because I like speed driving."

3.2 "If I knew the person and how they drove while drunk, I would if they did OK. But otherwise, no!"

4.0 "I would run and never look back. I don't take rides from strangers."

TABLE XVI

RESPONSES TO ITEM 36 ON TEST FORM B "WHAT WOULD YOU DO IF A FRIEND OF YOURS WAS OFFERED A RIDE HOME BY SOMEONE WHO WAS OBVIOUSLY DRUNK?"

Response Category[1]	Experimental Gp. Pretest (N=116)	Experimental Gp. Posttest (N=110)	Control Gp. Pretest (N=54)	Control Gp. Posttest (N=46)
1.0 Talk friend out of accepting ride	42	31	18	16
1.1 but it is ultimately friend's decision	3	7	5	1
1.2 and make friend aware of dangers involved	16	22	15	8
1.3 and suggest alternate way for friend to get home	21	24	6	8
1.4 and advise/admonish driver	5	5	1	2
1.5 and try to sober driver and/or take driver home	3	3	3	1
2.0 Uncertain	2	1	0	0
3.0 "Let him go"	0	1	0	0
3.1 and accompany friend	2	0	1	0
3.2 depending on who driver was, if it's the only way home, etc.	1	2	2	2
4.0 Misinterpretation of question	21	14	3	8
Total attempts to stop (1.0 through 1.5)	90	92	48	36
Total allow go (3.0 through 3.2)	3	2	3	2

[1] Examples of Content in Above Response Categories

1.0 "Try to stop him from going." "I try to talk them out of it, and try to convince her he was drunk.

1.1 "I would tell them not to do it because you could get killed too. But it is mostly up to you!"

1.2 "I would tell them not to go home with them because he could crash and get hurt and even killed."

1.3 "I would talk her into not going with her or him and walk home or call parents."

1.4 "I would tell my friend to refuse and tell the driver that he/she shouldn't be driving and tell him that it is best not to drive after drinking."

1.5 "I would try to stop him and contact someone to take the driver home".

2.0 "I don't know".

3.1 "I would go too."

3.2 "I would tell them not to if I didn't know the person but if I knew him or her I wouldn't stop her if I've driven with the person before and got home safe when he or she was drunk."

4.0 "No thanks, I'll walk home." "Not with strangers." Interpreted the question as what would you do if offered.....; totally ignored fact that it was friend who was offered ride.

TABLE XVII

RESPONSES TO ITEM 36 ON TEST FORM C "WHAT KINDS OF CHANGES IN BEHAVIOR WOULD TELL YOU WHEN YOU'VE HAD ENOUGH TO DRINK?"

Response Category[1]	Experimental Gp. Pretest (N=110)	Experimental Gp. Posttest (N=107)	Control Gp. Pretest (N=48)	Control Gp. Posttest (=52)
1.0 Positive changes	7	1	2	0
2.0 Negative changes				
2.1 Psychological changes	2	2	2	1
2.2 Physiological changes	22	22	10	5
2.3 Behavioral changes	22	20	8	13
2.4 Motor impairment	41	50	18	28
2.5 Loss of consciousness	2	0	3	0
3.0 Rely on friend to tell me	1	0	1	0
4.0 Don't know/NA	10	4	2	2
5.0 Misinterpretation of question	3	8	2	2

[1] Examples of Content in Above Response Categories

1.0 I would feel like dancing, meeting people, happy. I would not have any problems.

2.1 I would get nervous, angry, silly, mean, etc.

2.2 Vision blurred, eyes red, headache, reduced hearing, feeling dizzy, nauseous, etc.

2.3 Start yelling, fighting, picking on people, acting fresh.

2.4 Stumbling, slurring speech, dropping things, reflexes slowed down.

2.5 Passing out, "seeing all kinds of pink elephants."

3.0 "A friend would tell me when I had too much."

4.0 "I don't know. I have no idea since I don't drink."

5.0 "I will not ever drink." "When you are drunk."

TABLE XVIII

RESPONSES TO ITEM 36 ON TEST FORM D "WHAT DO YOU THINK OF SOMEONE WHO DOES NOT DRINK ALCOHOL?"

	Response Category	Experimental Gp. Pretest (N=127)	Experimental Gp. Posttest (N=115)	Control Gp. Pretest (N=50)	Control Gp. Posttest (N=47)
1.0	Positive image (he's smart, stable, strong, doing the right thing, etc.)	89	76	41	30
1.1	but it's good to drink in moderation once in awhile	6	5	1	3
2.0	Uncertain	1	0	0	0
3.0	Negative image (he's a social misfit, weird, scared, etc.)	5	2	0	2
4.0	Whether he drinks or not doesn't change my opinion of him. It's his own decision...	20	27	6	10
5.0	No such thing as a non-drinker. Everyone has a drink sometime.	0	1	0	0
6.0	Misinterpretation of question	6	4	2	2

SECTION THREE: CURRENT MEASURING INSTRUMENTS WITH INSTRUCTIONS FOR ADMINISTRATION AND SCORING

Introduction

A test battery is available which can be used for various kinds of evaluations for the Junior High School Module for Alcohol Education and Traffic Safety. The battery can provide information on the status or change of student performance in terms of the 31 objectives of the Module (16 for knowledge, 9 for attitude, and 6 for behavior) and/or the 10 general objectives of the Module (5 for knowledge, 3 for attitude, and 2 for behavior) and/or the 3 overall measures reflecting performance in the 3 domains addressed by the Module (knowledge, attitude, and behavior). The objectives of the Module are described on pages 6-9, and the measures described in this section articulate closely with them.

There are four separate and functionally independent forms comprising the test battery (Forms A, B, C, and D), and each contains four instruments: a 16-item knowledge measure, a 9-item attitude measure, a 6-item behavior measure, and a 4-item "lie" measure. The number of items in the knowledge, attitude, and behavior measures is equal to the number of objectives in each area -- one item measures each objective.

Each test form is divided into three parts. Parts I and II measure knowledge; Part I is composed of multiple-choice type items, each with three to five options, while Part II contains true-false type items. Part III contains the attitude, behavior, and lie measures. It is composed of five position agree-disagree type items.

This section contains instructions for administering and scoring the test forms used in conjunction with the Module. More detailed information on each of the four measuring instruments comprising the battery, including development, reliability, and validity, is found on pages 150-155.

The instruments can be used to assess *pre-* to *post*-course change. Such an application could be helpful to instructors as well as program administrators as a

guide to Module effectiveness and possible modification. Section Two of this Appendix gives illustrations of the kinds of information that *pre/post* administration can yield using a multiple matrix sampling technique. Other and simpler analytical techniques can also be effectively used to provide information on Module performance.

The actual four forms of the test battery appear on pages 246-261. Specific instructions for administration and scoring of the test forms follow.

Instructions for Administration

Each of the four test forms takes about 15 to 20 minutes to administer. No special instructions are required beyond those on the cover sheets. The item format is such that the test is largely self-explanatory. Instructors should not answer questions from students which require defining terms, etc., and should limit their responses to questions concerning what is expected in terms of following the instructions on the coversheets. Students may be told that the test is one of how much they know and what they think about alcohol use.

Test batteries can be administered either once (as a *post* Module assessment) or twice (as a *pre/post* Module evaluation before the *pre* Module activities, and at the conclusion of the Module). The *post* only administration is far less desirable than the *pre/post* administration, and should be limited to situations where it is truly impractical to administer a posttest. Interpretation of test results, particularly in terms of Module evaluation, are far more readily understood when there are pre-Module baseline levels for comparison.

Data collection can be accomplished in numerous ways, since there are four test forms. For a single class, probably the most useful approach, from the standpoint of evaluating a student's performance as well as the Module, involves combining Forms A and B into a single test (Test 1) and Forms C and D into a single test (Test 2) and giving Test 1 as a pretest and Test 2 as a posttest to half the class and

vice-versa for the other half of the class. This would give each student a different *pre*- and *post*-test (eliminating one source of bias), utilize the entire item pool on both test administrations (desirable for Module evaluation purposes) and give each student two items for each objective (desirable for individual student assessment purposes). Alternative data collection strategies, which would be easier to accomplish, but somewhat less useful in terms of their results, are also possible. Below are three possible alternative strategies. They get progressively easier than the recommended strategy, but get progressively less useful for evaluation purposes. They are presented to help instructors and administrators perform the best possible evaluation compatible with their circumstances.

1. Give Test 1 (as described above) as a *pre*test and Test 2 (as described above) as a *post*test, to the whole class (easier to organize).

2. Give Form A as a *pre*test to half the class, Form B as a *post*test to the other half. Reverse forms for the *post*test (less time, but less information: uses only half the item pool, and each student has only one item per objective).

3. Give Form A as a *pre*test, Form B as a *post*test (easier to organize than item 2 above, but loses more information: uses only one-fourth of the item pool per administration).

However, any of plans 1-3 above is a big improvement over *post*test-only administration. If a *post*test-only administration is necessary, the most useful strategy would be combining Forms A and B to yield Test 1 and 2; Forms C and D to yield Test 2 giving Test 1 to half the class and Test 2 to the other half. Increasingly simple alternative *post*test only plans with decreasing usefulness follow:

1. Giving Test 1 to the whole class.
2. Giving Form A to half of the class, Form B to the other half.
3. Giving Form A to the whole class

Instructions For Scoring

Four separate overall scores are computed: one each for knowledge, attitude, behavior, and the lie score. In addition, scores can be computed for the five general knowledge objectives, the three general attitude objectives, and the two general behavior objectives. How each is scored and what each means is described below. It needs to be emphasized, however, that the descriptions relate to a single form (Form A, B, C, or D). If a test administration included two forms per student, the numbers of items per measure would be twice that indicated, as would the lowest to highest possible score. Further, a simplified scoring method utilizing overlays will be described at the end of these instructions.

Knowledge

The Knowledge measure objectively assesses how much the student knows about the relationships between alcohol and traffic safety. There are sixteen items for the knowledge measure for each test form. Possible score-range per form is zero to sixteen, computed by adding one point for every correct response. Do not count any item for which more than one option is checked or for which the item is left blank; these are scored as incorrect. Correct responses are as follows:

	Form			
Item Number	A	B	C	D
1	c	a	d	c
2	d	c	c	d
3	b	d	e	d
4	c	b	c	b
5	e	d	e	e
6	e	d	d	a
7	d	e	a	d
8	b	b	a	d
9	a	b	a	b
10	a	a	a	a
11	b	a	a	a
12	a	b	b	b
13	a	b	b	b
14	b	b	b	a
15	b	a	b	b
16	b	b	a	b

In addition, five general objective scores, one for each of the five knowledge general objectives, can be computed by summing the number of correct responses (determined with the above key) for each of the objectives associated with the general objectives as described below:

General Objective	Form A	Form B	Form C	Form D
1	1,2,3,15	2,3,13,15	7,8,10,12	5,6,8,9
2	12,16	11,12	1,14	13,16
3	4,7,8,9,11	4,5,6,7,14	2,3,4,11,15	1,3,4,10,15
4	5,6	8,10	5,9	2,7
5	10,13,14	1,9,16	6,13,16	11,12,14

Possible score-range is zero to two for objectives 2 and 4; zero to three for objective 5; zero to four for objective 1; and zero to five for objective 3.

Attitude

The attitude measure explores how a person feels about various aspects of alcohol and traffic safety. There are nine items for the attitude measure for each test form. Possible score-range per form is nine to forty-five. To score, add five points for each response of "strongly agree," four points for "agree," three points for "not sure," two points for "disagree," and one point for "strongly disagree." Certain items must be recoded to reverse the scoring direction to make the scale direction consistent. For these items, 5=1, 4=2, 3=3, 2-4, and 1=5. Add three points for each item that is omitted or that has a multiple response so that the item is given a neutral score. The higher the score, the more positive the attitude, indicating greater congruity with objectives. The nine items in this measure are as follows (scoring for each is five points for "strongly agree," etc., except for underlined items which have reversed scoring, i.e. 5=1, etc.):

Form	Items
A	18,21,22,23,24,25,26,32,35
B	19,24,28,29,30,31,32,34,35
C	17,20,21,23,25,26,31,33,34
D	17,19,20,21,22,24,25,30,33

In addition, a score can be computed for each of the three attitude general objectives, by summing the scores (as described above) for each of the objectives associated with the general objectives as described below:

	Form			
General Objective	A	B	C	D
6	18,25	31,35	17,34	19,21
7	21,23,24,26,32	19,28,29,30,34	21,23,25,31,33	17,20,22,24,33
8	22,35	24,32	20, 26	25,30

Possible score-range is two to ten for objectives 6 and 8; and five to twenty-five for objective 7.

Behavior

The behavior measure attempts to quantify a person's stated intention to act in particular ways in relation to alcohol and traffic safety. There are six items for the behavior measure for each test form. Possible score-range per form is six to thirty. The scoring procedure is similar to that for the attitude measure. The higher the score, the more positive the stated behavioral intent, indicating greater congruity with objectives. The six items in this measure are as follows (underlined items have reversed scoring, i.e. 5=1, etc.):

Form	Items
A	27,28,29,30,31,34
B	17,22,23,26,27,33
C	18,19,22,24,27,28
D	18,23,26,27,28,29

In addition, two behavior general objective scores can be computed (using the same procedure as for attitude general objectives) as described below:

General Objective	Form A	Form B	Form C	Form D
9	29,34	17,27	18,19	26,27
10	27,28,30,31	22,23,26,33	22,24,27,28	18,23,28,29

Possible score-range is two to ten for objective 9; and four to twenty for objective 10.

Lie Scale

The lie scale assesses the tendency of a student to misrepresent his true feelings so as to give answers "the teacher wants to hear." There are four items for the lie scale for each test form. However, this scale really requires eight items for meaningful interpretation. Therefore, if two forms are combined for an administration (in terms of the alternatives described on pages 239-240) the four items from each form should be combined to yield the eight for computing the score. Forms A and B together contain a complete lie scale (as do Forms C and D together). If only one form is administered per student, the pretest and posttest forms can be combined to compute this measure (e.g. four lie scale items from Form A pretest and four from Form B posttest for a total of eight). If only one form is available (e.g. just a one-form posttest-only) the score on the scale will not mean very much. For the eight item measure, possible score-range is eight to forty (four to twenty per form). Scoring is similar to that for the attitude and behavior measures. The four items per form in this measure are as follows (underlined items have reversed scoring, i.e. 5=1, etc.):

Form	Items
A	17,19,20,33
B	18,20,21,25
C	29,30,32,35
D	31,32,34,35

For the eight-item scale, scores of thirty-two or higher are interpreted as indicative of "lying" and are used to rule invalid the scores on the attitude and behavior measures.

Use of Scoring Overlays

Scoring of test forms is most easily accomplished with the assistance of the scoring overlays provided. Four sets of overlays have been prepared -- for Forms A, B, C, and D. Each set comprises two overlays, the first of which facilitates scoring of the knowledge measure. It is used by placing the overlay on top of the appropriate place on pages 1 and 2 of the test form (so the items line up). The second overlay facilitates scoring of the attitude, behavior, and lie measures. It is used by placing the overlay on top of the appropriate place on pages 2 and 3 of the test form.

These overlays allow rapid scoring by privíding item keying. Abbreviated scoring directions appear directly on them.

Overlays for the four test forms appear on pages 262-269.

JUNIOR HIGH SCHOOL INVENTORY FOR ALCOHOL AND TRAFFIC SAFETY

FORM A

Instructions: Read each question carefully. Decide which response is most appropriate and place a check (✓) in that column on the right. Some of the questions contain terms with which you may not be familiar, so just do as well as you can with your present understanding. Do not ask the instructor to define terms or answer questions relating to specific items. Answer every question to the best of your ability and as honestly as possible.

PART I

1. Which of the following are true?
   (a) Teenagers drive better after drinking than adults do after drinking, because teenagers have better reaction time. (a) [ ]
   (b) Teenagers usually "handle" alcohol better than do adults. (b) [ ]
   (c) Teenagers drink alcohol for many of the same reasons that adults drink alcohol. (c) [ ]
   (d) All of the above (d) [ ]
   (e) None of the above (e) [ ]

2. On the basis of present-day knowledge, the greatest single driver-related cause of highway deaths is:
   (a) emotional upsets (a) [ ]
   (b) inattention (b) [ ]
   (c) fatigue (c) [ ]
   (d) alcohol (d) [ ]
   (e) lack of experience (e) [ ]

3. At which percentage of alcohol in the blood is one considered to be driving while intoxicated?
   (a) .02 (a) [ ]
   (b) .10 (b) [ ]
   (c) .50 (c) [ ]

4. From the standpoint of nutrition, an alcoholic beverage is:
   (a) an excellent food (a) [ ]
   (b) well balanced, but fattening (b) [ ]
   (c) high in calories but low in vitamins and minerals (c) [ ]

5. Which of the following influences the effects of alcohol?
   (a) the amount of food in the stomach (a) [ ]
   (b) the body weight of the person (b) [ ]
   (c) the mood of the individual (c) [ ]
   (d) a and b (d) [ ]
   (e) a, b, and c (e) [ ]

6. Which of the following behavioral effects can alcohol produce?
   (a) risk taking (a) [ ]
   (b) depression (sadness) (b) [ ]
   (c) relaxation (c) [ ]
   (d) happy feelings (d) [ ]
   (e) all of the above (e) [ ]

7. For each one ounce of whiskey, the minimum time a person should wait before driving is:
   (a) need not wait (a) [ ]
   (b) 10 minutes (b) [ ]
   (c) 20 minutes (c) [ ]
   (d) 1 hour (d) [ ]
   (e) 3 hours (e) [ ]

8. What do alcohol and "downers" have in common?
   (a) they can be bought by anyone (a) [ ]
   (b) they are both depressants (b) [ ]
   (c) most adults use them (c) [ ]
   (d) they only come in liquid form (d) [ ]

PART II

	True	False
9. A six ounce glass of wine has more alcohol than a six ounce glass of beer.	[ ]	[ ]
10. Alcoholism is one of the most serious illnesses in the United States.	[ ]	[ ]
11. While males usually are influenced by ads for alcoholic beverages females usually are not.	[ ]	[ ]
12. As few as two drinks can cause driving performance to deteriorate somewhat.	[ ]	[ ]
13. A.A. groups can be found in most communities or nearby.	[ ]	[ ]
14. Drunkenness on the part of an individual clearly shows that he is addicted to alcohol.	[ ]	[ ]
15. The slower one drinks, the faster the increase of alcohol in the blood.	[ ]	[ ]
16. Ads for alcohol sometimes show persons with hangovers.	[ ]	[ ]

PART III

	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
17. Even if I had the opportunity, I would never feel the urge to tell someone off.	—	—	—	—	—
18. Most teenagers are embarrassed to refuse when pressured to drink by their peers.	—	—	—	—	—
19. If I could get into a movie without paying for it and be sure I was not seen, I would probably do it.	—	—	—	—	—
20. I would never deliberately say something that would hurt someone's feelings.	—	—	—	—	—
21. Drinking as much as adults and holding it well is a sign of being grown up.	—	—	—	—	—
22. I believe that for most people it would be a waste of time to try to understand how drinking influences their lives.	—	—	—	—	—
23. While drinking enough to lose control of behavior is "bad news" weddings and other celebrations are exceptions and you can really let yourself go.	—	—	—	—	—
24. Persons who drink when they are nervous and under stress are doing themselves a favor.	—	—	—	—	—
25. I believe that advertisements try to get people to drink more.	—	—	—	—	—
26. It is OK to drive after drinking if one does not "feel" drunk.	—	—	—	—	—
27. When I am old enough to drive, I will plan to avoid driving if my ability has been impaired by alcohol.	—	—	—	—	—

	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
28. As the host/hostess of a party I would provide soft drinks for those guests who do not use alcohol.	—	—	—	—	—
29. I would not care to participate in class discussions concerning alcohol problems in the community because they have nothing to do with the school.	—	—	—	—	—
30. I would go so far as to make up an excuse not to drive with someone who has had several drinks.	—	—	—	—	—
31. I would try to persuade a friend from accepting a ride from someone who had consumed 8 drinks.	—	—	—	—	—
32. Sometimes drinking can make problems easier to handle.	—	—	—	—	—
33. A strong desire to smash things is OK when you are overly angry.	—	—	—	—	—
34. I would not contribute to a discussion of ways to get students to stop drinking.	—	—	—	—	—
35. In a drinking society, alcohol education for drivers is as important as driver education.	—	—	—	—	—

36. What would you do if you wanted to go home and were offered a ride by someone who appeared to be drunk? (Write answer below.)

JUNIOR HIGH SCHOOL INVENTORY FOR ALCOHOL AND TRAFFIC SAFETY

FORM B

Instructions: Read each question carefully. Decide which response is most appropriate and place a check (✓) in that column on the right. Some of the questions contain terms with which you may not be familiar, so just do as well as you can with your present understanding. Do not ask the instructor to define terms or answer questions relating to specific items. Answer every question to the best of your ability and as honestly as possible.

NAME_____ INSTRUCTOR_____ CLASS_____ DATE_____

PART I

1. According to recent statistics alcoholism is:

(a) one of the most serious illnesses in our country	(a)	[ ]
(b) less prevalent than in previous years	(b)	[ ]
(c) not a serious problem in the U.S.	(c)	[ ]
(d) none of the above	(d)	[ ]

2. When a non-drinking driver is compared with a driver who is legally drunk, about how much more likely is it that the drunken driver will become involved in a traffic accident?

(a) no more likely	(a)	[ ]
(b) 5-10 times more likely	(b)	[ ]
(c) over 25 times more likely	(c)	[ ]
(d) no one knows	(d)	[ ]

3. Driving behavior of teenagers compared to adults is more likely to be influenced by the same amount of alcohol because teenagers are:

(a) less experienced as drivers	(a)	[ ]
(b) less experienced as drinkers	(b)	[ ]
(c) less experienced at driving after drinking	(c)	[ ]
(d) a bit of all of the above	(d)	[ ]
(e) none of the above	(e)	[ ]

4. A beverage that is "100 proof" contains what percentage of alcohol?

(a) 25	(a)	[ ]
(b) 50	(b)	[ ]
(c) 75	(c)	[ ]
(d) 100	(d)	[ ]
(e) there is no such proof	(e)	[ ]

5. Which does *not* contain a drug:

(a) cigarette	(a)	[ ]
(b) beer	(b)	[ ]
(c) sleeping pill	(c)	[ ]
(d) orange juice	(d)	[ ]
(e) a, b, and c	(e)	[ ]

6. Which is true?

(a) Alcohol is mostly fat.	(a)	[ ]
(b) Alcohol contains some protein.	(b)	[ ]
(c) Beer is almost as nutritious as milk.	(c)	[ ]
(d) None of the above.	(d)	[ ]

7. The quickest way to become sober is to:

(a) drink black coffee	(a)	[ ]
(b) drink hot tea	(b)	[ ]
(c) take a cold shower	(c)	[ ]
(d) get out in the fresh air	(d)	[ ]
(e) stop drinking	(e)	[ ]

8. Which best describes the effects of alcohol.

(a) speeds up reflexes, improves judgment and control	(a)	[ ]
(b) worsens vision, reduces judgment and control	(b)	[ ]
(c) worsens vision, improves judgment and control	(c)	[ ]
(d) slows reflexes, improves judgment and control	(d)	[ ]

9. A person suffering from alcoholism is:

(a) always drunk	(a)	[ ]
(b) unable to control how much he drinks	(b)	[ ]
(c) usually unemployed	(c)	[ ]
(d) often a "skid row" bum	(d)	[ ]
(e) all of the above	(e)	[ ]

10. Which of the following is true about the effects produced by a given quantity of alcohol?
    (a) effects are less with a full stomach (a) [ ]
    (b) effects are more lasting in the afternoon than at night (b) [ ]
    (c) intoxicating effects occur even before the alcohol is absorbed into the blood (c) [ ]
    (d) all of the above (d) [ ]
    (e) effects in a given person are the same at all times (e) [ ]

PART II

	True	False
11. Ads for beer and whiskey usually show those drinking having lots of fun.	[ ]	[ ]
12. A driver will have better coordination after a few drinks.	[ ]	[ ]
13. When the alcohol content of a person's blood reaches 0.01% the individual is legally "under the influence."	[ ]	[ ]
14. Liquor ads only attract older people.	[ ]	[ ]
15. The faster one drinks, the faster the increase of alcohol in the blood.	[ ]	[ ]
16. There are few AA groups available to the alcoholic.	[ ]	[ ]

PART III

	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
17. I would not be interested in discussing alcohol problems in the elementary and junior high school classes because it is an adult problem.	—	—	—	—	—
18. I sometimes feel resentful when I don't get my way.	—	—	—	—	—
19. One who has just finished several quick drinks should not drive for a while.	—	—	—	—	—
20. I would always be willing to admit when I make a mistake.	—	—	—	—	—
21. It is sometimes hard for me to go on with my work if I am not encouraged.	—	—	—	—	—
22. I would not ride with a driver who had consumed eight drinks.	—	—	—	—	—
23. I will not make fun of or pressure a person who refuses to drink.	—	—	—	—	—
24. I think it's not worth the effort to try and avoid getting into drunken driver situations.	—	—	—	—	—
25. I think it is sometimes right to be punished without cause.	—	—	—	—	—
26. If I thought I couldn't control my actions after drinking I would limit myself to one or two drinks.	—	—	—	—	—

	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
27. I would not participate in discussions on preventing alcoholism.	—	—	—	—	—
28. It is OK to drink to better cope with problems.	—	—	—	—	—
29. A wedding toast with alcohol is a most acceptable gesture to the bride and groom.	—	—	—	—	—
30. I think that drinking to "be an adult" could be a wise decision for most people.	—	—	—	—	—
31. Many persons drink just because their friends do.	—	—	—	—	—
32. I don't think it would make sense for me to determine what effects my drinking has on my family or on my behaviors.	—	—	—	—	—
33. I shall try to talk my friends out of riding with a driver who has been drinking.	—	—	—	—	—
34. It is OK to drink to escape from the monotony of your everyday routine.	—	—	—	—	—
35. Alcohol advertising is intended to encourage one to drink.	—	—	—	—	—

36. What would you do if a friend of yours was offered a ride home by someone who was obviously drunk? (Write answer below.)

JUNIOR HIGH SCHOOL INVENTORY FOR ALCOHOL AND TRAFFIC SAFETY

FORM C

Instructions: Read each question carefully. Decide which response is most appropriate and place a check (✓) in that column on the right. Some of the questions contain terms with which you may not be familiar, so just do as well as you can with your present understanding. Do not ask the instructor to define terms or answer questions relating to specific items. Answer every question to the best of your ability and as honestly as possible.

NAME_____ INSTRUCTOR_____ CLASS_____ DATE_____

PART I

1. Which of the following best describes the most serious effect of alcohol on driver performance?
   (a) blurs vision [ ]
   (b) reduces hearing ability [ ]
   (c) increases attention span [ ]
   (d) reduces ability to react quickly [ ]

2. What per cent of 80 proof whiskey is pure alcohol?
   (a) 80 [ ]
   (b) 60 [ ]
   (c) 40 [ ]
   (d) 20 [ ]
   (e) per cent cannot be determined by proof [ ]

3. Which of the following does not contain a drug?
   (a) aspirin [ ]
   (b) beer [ ]
   (c) "pot" [ ]
   (d) coffee [ ]
   (e) ginger ale [ ]

4. Which would "sober someone up" if he/she wanted to drive?
   (a) black coffee [ ]
   (b) a cold shower [ ]
   (c) time [ ]
   (d) vigorous exercise [ ]
   (e) none of the above [ ]

5. Which of the following will affect how a person behaves when drinking?
   (a) the situation he's drinking in (party, alone, etc.) [ ]
   (b) his mood before he started drinking [ ]
   (c) his drinking experience [ ]
   (d) his attitude toward whether drinking is "good" or "bad" [ ]
   (e) all of the above [ ]

6. Problem drinking affects the:
   (a) individual [ ]
   (b) family [ ]
   (c) society [ ]
   (d) all of the above [ ]

PART II

	True	False
7. The more you drink before driving, the worse you drive.	[ ]	[ ]
8. Teenagers have more alcohol related traffic fatalities proportionately than other age groups.	[ ]	[ ]
9. Judgment is one of the first functions affected by alcohol.	[ ]	[ ]
10. In most states the blood alcohol level at which a driver is assumed to be impaired is .10%.	[ ]	[ ]
11. Ads for alcohol tend to make persons think it is good.	[ ]	[ ]

		True	False
12.	Once a person is drunk, further drinking will not increase the amount of alcohol in his/her blood.	[ ]	[ ]
13.	Alcoholism cannot really be called a disease.	[ ]	[ ]
14.	Liquor ads frequently show persons arguing and fighting.	[ ]	[ ]
15.	Science has shown that alcohol is a necessary food.	[ ]	[ ]
16.	Health Education teachers can be used as resources for providing information to students concerning problems related to alcohol use.	[ ]	[ ]

PART III

		Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
17.	When one's classmates and friends drink the pressure is on him or her to join them.	—	—	—	—	—
18.	I do not want to discuss ways to develop personal plans to avoid alcohol abuse in situations most likely for me.	—	—	—	—	—
19.	I am willing to participate in class discussions on the problems of alcohol.	—	—	—	—	—
20.	It is important for me to determine what effects alcohol would have on my driving, schooling, working and other aspects of my future.	—	—	—	—	—
21.	It is OK to drink to help you feel grown up.	—	—	—	—	—
22.	I would call a person who chooses not to drink "antisocial."	—	—	—	—	—
23.	Drunken driving is undesirable for the community as well as for the individual.	—	—	—	—	—
24.	At any one time, I would limit my drinking to two or three drinks.	—	—	—	—	—
25.	Drinking large amounts which would be unacceptable at other times is OK when under a great deal of pressure.	—	—	—	—	—
26.	It makes no sense to try to determine how to prevent getting into a drunken driving situation.	—	—	—	—	—
27.	After a party, I would try to prevent my friend from riding home with someone who obviously has had too much to drink.	—	—	—	—	—
28.	I wouldn't ever ride with a driver who appeared to be under the influence of alcohol.	—	—	—	—	—
29.	Even if I had the opportunity, I would never feel the urge to tell someone off.	—	—	—	—	—
30.	I would never deliberately say something that would hurt someone's feelings.	—	—	—	—	—

	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
31. I feel that you should not drink if the reason is that things went wrong for you.	—	—	—	—	—
32. A strong desire to smash things is OK when you are overly angry.	—	—	—	—	—
33. It is really bad for churches to use wine during ceremonies.	—	—	—	—	—
34. Most alcohol advertising makes drinking look like fun.	—	—	—	—	—
35. If I could get into a movie without paying for it and be sure I was not seen, I would probably do it.	—	—	—	—	—

36. The more you drink, the more your behavior is affected. What kinds of changes in your behavior would you think are OK for you before you decide that you've had enough? (Write answer below.)

JUNIOR HIGH SCHOOL INVENTORY FOR ALCOHOL AND TRAFFIC SAFETY

FORM D

Instructions: Read each question carefully. Decide which response is most appropriate and place a check (✓) in that column on the right. Some of the questions contain terms with which you may not be familiar, so just do as well as you can with your present understanding. Do not ask the instructor to define terms or answer questions relating to specific items. Answer every question to the best of your ability and as honestly as possible.

NAME_____ INSTRUCTOR_____ CLASS_____ DATE_____

PART I

1. If a person were to drink 8 ounces of each of the following, which one would cause him to become "high" fastest?
   (a) wine [ ]
   (b) beer [ ]
   (c) whiskey [ ]
   (d) ale [ ]
   (e) all of the above are about the same [ ]

2. Three to five ounces of whiskey on an empty stomach will make the average person:
   (a) think he can do things that he cannot actually do [ ]
   (b) believe he is performing better than he really is [ ]
   (c) less sure of himself [ ]
   (d) a and b [ ]
   (e) all of the above [ ]

3. Which of the following are drugs?
   (a) heroin [ ]
   (b) LSD [ ]
   (c) alcohol [ ]
   (d) all of the above [ ]
   (e) a and b [ ]

4. Which most accurately describes the food value of alcohol?
   (a) high protein, low calorie [ ]
   (b) high calorie, little food value [ ]
   (c) high calorie, high vitamin content [ ]
   (d) high vitamin and mineral content, low protein [ ]
   (e) low calorie, low vitamin content [ ]

5. Alcohol is a factor in approximately what percentage of fatal automobile crashes?
   (a) 10 [ ]
   (b) 20 [ ]
   (c) 30 [ ]
   (d) 40 [ ]
   (e) 50 [ ]

6. What does "blood alcohol concentration" mean?
   (a) percentage of alcohol in a person's blood stream [ ]
   (b) ounces of alcohol that have been consumed in a given time period [ ]
   (c) a level of alcohol in the blood which causes intoxication [ ]
   (d) all of the above [ ]
   (e) none of the above [ ]

7. Which of the following may affect how a given dose of alcohol may influence a person?
   (a) previous experience with alcohol [ ]
   (b) emotional state [ ]
   (c) intelligence [ ]
   (d) a and b [ ]

8. Which of the following is of most value in determining how drunk a driver is?
   (a) opinion of the arresting policeman [ ]
   (b) opinion of witnesses [ ]
   (c) speech test [ ]
   (d) breath analysis [ ]
   (e) walking a straight line [ ]

PART II

	True	False
9. Because of their youth teenagers who have been drinking maintain better control of their cars than older people.	[ ]	[ ]
10. Ads for alcohol tend to increase sales for alcoholic beverages.	[ ]	[ ]
11. There are organizations available for family members of the alcoholic.	[ ]	[ ]
12. Drunkenness and alcoholism are one and the same.	[ ]	[ ]
13. Ads for alcoholic beverages show both good and bad aspects of drinking.	[ ]	[ ]
14. Alcoholism is a complicated illness identified as partly physical, psychological and sociological.	[ ]	[ ]
15. As soon as a person stops drinking he/she sobers immediately.	[ ]	[ ]
16. A person with a blood alcohol level a little below the legal limit for intoxication probably is able to drive safely, even in emergencies.	[ ]	[ ]

PART III

	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
17. Driving after 3 or 4 drinks is OK provided one is an experienced driver.	—	—	—	—	—
18. If it is practical I will attempt to prevent others from riding with a driver whose ability has been impaired by alcohol.	—	—	—	—	—
19. Advertising has little effect on one's decision to drink.	—	—	—	—	—
20. Drinking is alright if done to imitate parental drinking patterns.	—	—	—	—	—
21. Friends don't have much influence on one's drinking patterns.	—	—	—	—	—
22. When attending a party at a friend's house it is best to have not more than one drink per hour.	—	—	—	—	—
23. When I need transportation, I will make my plans far enough ahead to avoid riding with a driver who has been drinking too much.	—	—	—	—	—
24. Drinking enough booze can make problems disappear.	—	—	—	—	—
25. It is a waste of time to assess the various approaches used to prevent drunken driving.	—	—	—	—	—
26. I would be willing to discuss two or three situations in which I would be most likely to abuse alcohol, and how I might avoid them.	—	—	—	—	—
27. Class is not a place I want to talk about drinking problems.	—	—	—	—	—
28. I would not offer someone a drink if I knew he or she did not drink.	—	—	—	—	—
29. I wouldn't mind losing control of my behavior as a result of drinking so long as I am not in any physical danger.	—	—	—	—	—

	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
30. I feel that it would be useless for me to examine my drinking habits.	—	—	—	—	—
31. I would always be willing to admit when I make a mistake.	—	—	—	—	—
32. I sometimes feel resentful when I don't get my way.	—	—	—	—	—
33. It is OK to drink if it helps you feel more relaxed.	—	—	—	—	—
34. It is sometimes hard for me to go on with my work if I am not encouraged.	—	—	—	—	—
35. I think it is sometimes right to be punished without cause.	—	—	—	—	—

36. What do you think of someone who does not drink alcohol? (Write answer below.)

FORM A: SCORING OVERLAY--KNOWLEDGE

JUNIOR HIGH SCHOOL INVENTORY FOR ALCOHOL AND TRAFFIC SAFETY

PART I (page 1)

(a)	[ ]	
(b)	[ ]	
(c)	[x]	1
(d)	[ ]	
(e)	[ ]	
(a)	[ ]	
(b)	[ ]	
(c)	[ ]	2
(d)	[x]	
(e)	[ ]	
(a)	[ ]	
(b)	[x]	
(c)	[ ]	3
(a)	[ ]	
(b)	[ ]	4
(c)	[x]	
(a)	[ ]	
(b)	[ ]	
(c)	[ ]	5
(d)	[ ]	
(e)	[x]	
(a)	[ ]	
(b)	[ ]	
(c)	[ ]	6
(d)	[ ]	
(e)	[x]	
(a)	[ ]	
(b)	[ ]	
(c)	[ ]	7
(d)	[x]	
(e)	[ ]	
(a)	[ ]	
(b)	[x]	8
(c)	[ ]	
(d)	[ ]	

PART II (page 2)

True	False	
[x]	[ ]	9
[x]	[ ]	10
[ ]	[x]	11
[x]	[ ]	12
[x]	[ ]	13
[ ]	[x]	14
[ ]	[x]	15
[ ]	[x]	16

To score, add 1 point for each correct response (in red). Possible range is 0 to 16.

FORM A: SCORING OVERLAY--ATTITUDE, BEHAVIOR, LIE SCALE

JUNIOR HIGH SCHOOL INVENTORY FOR ALCOHOL AND TRAFFIC SAFETY

	ATTITUDE					BEHAVIOR					LIE					
	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree	
17	—	—	—	—	—	—	—	—	—	—	5	4	3	2	1	17
18	5	4	3	2	1	—	—	—	—	—	—	—	—	—	—	18
19	—	—	—	—	—	—	—	—	—	—	1	2	3	4	5	19
20	—	—	—	—	—	—	—	—	—	—	5	4	3	2	1	20
Page 2 21	1	2	3	4	5	—	—	—	—	—	—	—	—	—	—	21 Page 2
22	1	2	3	4	5	—	—	—	—	—	—	—	—	—	—	22
23	1	2	3	4	5	—	—	—	—	—	—	—	—	—	—	23
24	1	2	3	4	5	—	—	—	—	—	—	—	—	—	—	24
25	5	4	3	2	1	—	—	—	—	—	—	—	—	—	—	25
26	1	2	3	4	5	—	—	—	—	—	—	—	—	—	—	26
27	—	—	—	—	—	5	4	3	2	1	—	—	—	—	—	27
28	—	—	—	—	—	5	4	3	2	1	—	—	—	—	—	28
29	—	—	—	—	—	1	2	3	4	5	—	—	—	—	—	29
Page 3 30	—	—	—	—	—	5	4	3	2	1	—	—	—	—	—	30 Page 3
31	—	—	—	—	—	5	4	3	2	1	—	—	—	—	—	31
32	1	2	3	4	5	—	—	—	—	—	—	—	—	—	—	32
33	—	—	—	—	—	—	—	—	—	—	1	2	3	4	5	33
34	—	—	—	—	—	1	2	3	4	5	—	—	—	—	—	34
35	5	4	3	2	1	—	—	—	—	—	—	—	—	—	—	35

To Score:

Attitude--Align attitude scoring overlay (left section above) to appropriate space on pages 2 and 3. For each response, add point value (in red). For each non-response, add 3 points. Possible range is 9 to 36.

Behavior--Same as above, using behavior scoring overlay (middle section above). Possible range is 6 to 24.

Lie-- Same as above, using lie scoring overlay (right section above). Possible range is 4 to 16. Scores of 12 or above invalidate attitude and behavior scores.

FORM B: SCORING OVERLAY--KNOWLEDGE

JUNIOR HIGH SCHOOL INVENTORY FOR ALCOHOL AND TRAFFIC SAFETY

page 1

PART I

(a) [x]		
(b) [ ]	1	
(c) [ ]		
(d) [ ]		
(a) [ ]		
(b) [ ]	2	
(c) [x]		
(d) [ ]		
(a) [ ]		
(b) [ ]		
(c) [ ]	3	
(d) [x]		
(e) [ ]		
(a) [ ]		
(b) [x]		
(c) [ ]	4	
(d) [ ]		
(e) [ ]		
(a) [ ]		
(b) [ ]		
(c) [ ]	5	
(d) [x]		
(e) [ ]		
(a) [ ]		
(b) [ ]	6	
(c) [ ]		
(d) [x]		
(a) [ ]		
(b) [ ]		
(c) [ ]	7	
(d) [ ]		
(e) [x]		
(a) [ ]		
(b) [x]	8	
(c) [ ]		
(d) [ ]		
(a) [ ]		
(b) [x]		
(c) [ ]	9	
(d) [ ]		
(e) [ ]		

page 2

(a) [ ]	
(b) [ ]	10
(c) [ ]	
(d) [x]	
(e) [ ]	

PART II

True	False	
[x]	[ ]	11
[ ]	[x]	12
[ ]	[x]	13
[ ]	[x]	14
[x]	[ ]	15
[ ]	[x]	16

To score, add 1 point for each correct response (in red.) Possible range is 0 to 16.

FORM B: SCORING OVERLAY--ATTITUDE, BEHAVIOR, LIE SCALE

JUNIOR HIGH SCHOOL INVENTORY FOR ALCOHOL AND TRAFFIC SAFETY

		ATTITUDE					BEHAVIOR					LIE					
		Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree	
	17						1	2	3	4	5						17
	18											1	2	3	4	5	18
	19	5	4	3	2	1											19
Page 2	20											5	4	3	2	1	20 Page 2
	21											1	2	3	4	5	21
	22						5	4	3	2	1						22
	23						5	4	3	2	1						23
	24	1	2	3	4	5											24
	25											5	4	3	2	1	25
	26						5	4	3	2	1						26
	27						1	2	3	4	5						27
	28	1	2	3	4	5											28
Page 3	29	5	4	3	2	1											29 Page 3
	30	1	2	3	4	5											30
	31	5	4	3	2	1											31
	32	1	2	3	4	5											32
	33						5	4	3	2	1						33
	34	1	2	3	4	5											34
	35	5	4	3	2	1											35

To Score:

Attitude--Align attitude scoring overlay (left section above) to appropriate space on pages 2 and 3. For each response, add point value (in red). For each non-response, add 3 points. Possible range is 9 to 36.

Behavior--Same as above, using behavior scoring overlay (middle section above). Possible range is 6 to 24.

Lie --Same as above, using lie scoring overlay (right section above). Possible range is 4 to 16. Scores of 12 or above invalidate attitude and behavior scores.

FORM C: SCORING OVERLAY--KNOWLEDGE

JUNIOR HIGH SCHOOL INVENTORY FOR ALCOHOL AND TRAFFIC SAFETY

page 1

PART I

(a)	[ ]	
(b)	[ ]	
(c)	[ ]	1
(d)	[x]	
(a)	[ ]	
(b)	[ ]	
(c)	[x]	2
(d)	[ ]	
(e)	[ ]	
(a)	[ ]	
(b)	[ ]	
(c)	[ ]	3
(d)	[ ]	
(e)	[x]	
(a)	[ ]	
(b)	[ ]	
(c)	[x]	4
(d)	[ ]	
(e)	[ ]	
(a)	[ ]	
(b)	[ ]	
(c)	[ ]	5
(d)	[ ]	
(e)	[x]	
(a)	[ ]	
(b)	[ ]	
(c)	[ ]	6
(d)	[x]	

page 2

	True	False	
	[ ]	[x]	12
	[ ]	[x]	13
	[ ]	[x]	14
	[ ]	[x]	15
	[x]	[ ]	16

To score, add 1 point for each correct response (in red). Possible range is 0 to 16.

PART II

True	False
[x]	[ ]
[x]	[ ]
[x]	[ ]
[x]	[ ]
[x]	[ ]

FORM C: SCORING OVERLAY--ATTITUDE, BEHAVIOR, LIE SCALE

JUNIOR HIGH SCHOOL INVENTORY FOR ALCOHOL AND TRAFFIC SAFETY

	ATTITUDE					BEHAVIOR					LIE					
	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree	
17	5	4	3	2	1											17
18						1	2	3	4	5						18
19						5	4	3	2	1						19
Page 2 20	5	4	3	2	1											20 Page 2
21	1	2	3	4	5											21
22						5	4	3	2	1						22
23	5	4	3	2	1											23
24						5	4	3	2	1						24
25	1	2	3	4	5											25
26	1	2	3	4	5											26
27						5	4	3	2	1						27
28						5	4	3	2	1						28
29											5	4	3	2	1	29
30											5	4	3	2	1	30
31	5	4	3	2	1											31
Page 3 32											1	2	3	4	5	32 Page 3
33	1	2	3	4	5											33
34	5	4	3	2	1											34
35											1	2	3	4	5	35

To Score:

Attitude--Align attitude scoring overlay (left section above) to appropriate space on pages 2 and 3. For each response, add point value (in red). For each non-response, add 3 points. Possible range is 9 to 36.

Behavior--Same as above, using behavior scoring overlay (middle section above). Possible range is 6 to 24.

Lie --Same as above, using lie scoring overlay (right section above). Possible range is 4 to 16. Scores of 12 or above invalidate attitude and behavior scores.

FORM D: SCORING OVERLAY--KNOWLEDGE

JUNIOR HIGH SCHOOL INVENTORY FOR ALCOHOL AND TRAFFIC SAFETY

page 1

PART I

(a)	[ ]	
(b)	[ ]	
(c)	[x]	1
(d)	[ ]	
(e)	[ ]	
(a)	[ ]	
(b)	[ ]	2
(c)	[ ]	
(d)	[x]	
(e)	[ ]	
(a)	[ ]	
(b)	[ ]	
(c)	[ ]	3
(d)	[x]	
(e)	[ ]	
(a)	[ ]	
(b)	[x]	
(c)	[ ]	4
(d)	[ ]	
(e)	[ ]	
(a)	[ ]	
(b)	[ ]	
(c)	[ ]	5
(d)	[ ]	
(e)	[x]	
(a)	[x]	
(b)	[ ]	
(c)	[ ]	6
(d)	[ ]	
(e)	[ ]	
(a)	[ ]	
(b)	[ ]	
(c)	[ ]	7
(d)	[x]	
(a)	[ ]	
(b)	[ ]	
(c)	[ ]	8
(d)	[x]	
(e)	[ ]	

page 2

PART II

True	False	
[ ]	[x]	9
[x]	[ ]	10
[x]	[ ]	11
[ ]	[x]	12
[ ]	[x]	13
[x]	[ ]	14
[ ]	[x]	15
[ ]	[x]	16

To score, add 1 point for each correct response (in red). Possible range is 0 to 16.

FORM D: SCORING OVERLAY--ATTITUDE, BEHAVIOR, LIE SCALE

JUNIOR HIGH SCHOOL INVENTORY FOR ALCOHOL AND TRAFFIC SAFETY

		ATTITUDE					BEHAVIOR					LIE					
		Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree	
	17	1	2	3	4	5											
	18						5	4	3	2	1						
	19	1	2	3	4	5											
	20	1	2	3	4	5											
	21	1	2	3	4	5											
Page 2	22	5	4	3	2	1											Page 2
	23						5	4	3	2	1						
	24	1	2	3	4	5											
	25	1	2	3	4	5											
	26						5	4	3	2	1						
	27						1	2	3	4	5						
	28						5	4	3	2	1						
	29						1	2	3	4	5						
Page 3	30	1	2	3	4	5											Page 3
	31											5	4	3	2	1	
	32											1	2	3	4	5	
	33	1	2	3	4	5											
	34											1	2	3	4	5	
	35											5	4	3	2	1	

To Score:

Attitude--Align attitude scoring overlay (left section above) to appropriate space on pages 2 and 3. For each response, add point value (in red). For each non-response, add 3 points. Possible range is 9 to 36.

Behavior--Same as above, using behavior scoring overlay (middle section above). Possible range is 6 to 24.

Lie --Same as above, using lie scoring overlay (right section above). Possible range is 4 to 16. Scores of 12 or above invalidate attitude and behavior scores.